

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.09.95
Test oil : ISO 4113

Combination No. : 0 401 846 939

Injection pump
Pump designation : PE6P110A320RS3265
EP type number : 0 411 816 778

Governor
Governor design. : RQV300...1050PA232
: -5
Governor no. : 0 421 813 895

Cust. part No. : 11031123
: -P04 V.09/95

Customer-spec. information
Customer : VME
Motor : TD102KCE
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 0 681 343 009

Opening pressure bar : 173.5

A01

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 160.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 4.70
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 4.5

A02

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 50.0
tolerance degree : ± 4.0

control lever
position degree : 117.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.55
Rated speed rpm : 1120
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1225
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 86.0
tolerance degree : ± 4.0

control lever
position degree : 20.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.70
Tolerance mm : ± 0.30

Rated speed rpm : 200

CRT mm min. : > 6.30

Rated speed rpm : 355

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.55
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 12.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.90
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 380
rack travel mm : 2.30
Tolerance mm : \pm 0.10

Pressure hPa : 70
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.55
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50

A03

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.09.95

Test oil : ISO 4113

Combination No. : 0 401 846 992

Injection pump

Pump designation : PE6P110A320RS3266

EP type number : 0 411 816 777

Governor

Governer design. : RQV300...1100PA1182

Governer no. : 0 421 814 110

Cust. part No. : 11030875 P04 v.09.95

Customer-spec. information

Customer : VME

Motor : TD63KBE LAD. L90

Power KW : 115.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde
assembly

: 1 688 901 101

Opening pressure
bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 2.45

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.00

Tolerance mm : ± 0.50

Firing order

: 1- 5- 3- 6- 2-
: 4

Phasing

: 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 12.00

Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 140.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.51
Tolerance mm : ± 0.25

Rated speed rpm : 1172
guide sleeve
travel mm : 8.69
Tolerance mm : ± 0.25

Rated speed rpm : 822
guide sleeve
travel mm : 5.40
Tolerance mm : ± 0.25

Rated speed rpm : 356
guide sleeve
travel mm : 1.99
Tolerance mm : ± 0.25

Rated speed rpm : 406
guide sleeve
travel mm : 2.42
Tolerance mm : ± 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 3.11
Tolerance mm : ± 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1240

Rack travel in mm : 11.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1025
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 140.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 50.0
tolerance degree : ± 4.0

control lever
position degree : 116.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.00
Rated speed rpm : 1160
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1250
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50

Rated speed rpm : 1330

LOW IDLE

control lever
position degree : 84.0
tolerance degree : \pm 4.0

control lever
position degree : 18.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.20

Rated speed rpm : 200
CRT mm min. : $>$ 8.00

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 1025
rack travel mm : 12.00
Tolerance mm : \pm 0.05

Rated speed rpm : 625
rack travel mm : 12.40
Tolerance mm : \pm 0.15

Rated speed rpm : 820
rack travel mm : 12.30
Tolerance mm : \pm 0.10

Rated speed rpm : 625
rack travel mm : 12.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 625
Pressure hPa : 1500
rack travel mm : 12.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 625
rack travel mm : 9.40
Tolerance mm : \pm 0.10

Rated speed rpm : 625

Pressure hPa : 760
rack travel mm : 2.60
Tolerance mm : \pm 0.20

Pressure hPa : 80
rack travel mm : 0.25
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 625
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 625
Del. quantity
cm³/1000 strokes : 89.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1160

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.40
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 103.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 646 662

Injection pump
Pump designation : PE6P130A720RS7122-1
EP type number : 0 412 636 812

Governor
Governor design. : RQV300...1000PA922
: -1
Governor no. : 0 421 814 152

Cust. part No. : 11032057 P02 v.09/95

Customer-spec. information

Customer : VME
Motor : TD162 KA
Power KW : 330.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 291.0

Tolerance
cm3/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 4.0

Spreed
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 11.0

Rated speed rpm : 350

Rack travel in mm : 5.00
Tolerance mm : + 0.30

Del. quantity
cm3/1000 strokes : 28.0

Tolerance
cm3/1000 strokes : + 3.0

Check tolerance
cm3/1000S. : + 6.0

Spreed
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.76
Tolerance mm : + 0.25

Rated speed rpm : 1058
guide sleeve
travel mm : 8.66
Tolerance mm : + 0.25

Rated speed rpm : 717
guide sleeve
travel mm : 5.39
Tolerance mm : + 0.25

Rated speed rpm : 351
guide sleeve
travel mm : 2.40
Tolerance mm : + 0.25

Rated speed rpm : 401
guide sleeve
travel mm : 2.92
Tolerance mm : + 0.25

Rated speed rpm : 450
guide sleeve
travel mm : 3.41
Tolerance mm : + 0.25

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1110
Rack travel in mm : 12.40
Tolerance mm : + 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1200
Del. quantity
cm3/1000 strokes : 291.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 66.0
control lever
position degree : 120.0

RATED SPEED

rack travel mm : 12.60
Rated speed rpm : 1040
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 67.0

control lever
position degree : 11.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 7.80

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.60
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.60
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.60
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 730
rack travel mm : 3.70
Tolerance mm : \pm 0.10

Pressure hPa : 90
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1040
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.60
Tolerance mm : \pm 0.20

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.00
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 28.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.95

Test oil : ISO 4113

Combination No. : 0 402 676 822

Injection pump

Pump designation : PE6P120A320RS7365

EP type number : 0 412 626 940

Governor

Governer design. : RSV300...850P1A594

: -2

Governer no. : 0 421 833 479

Cust. part No. : 11031890 P03 v.09/95

Customer-spec. information

Customer : VME

Motor : TD 122 KKE

Power kW : 220.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde
assembly

: 1 688 901 103

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.00

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 253.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 45.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance

cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 253.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 50.0

tolerance degree : \pm 4.0

control lever
position degree : 100.0

tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.40

Rated speed rpm : 870

Tolerance 1/min : \pm 5

rack travel mm : 4.00

Rated speed rpm : 905

Tolerance 1/min : \pm 15

rack travel mm : 0.80

Tolerance mm : \pm 0.50

Rated speed rpm : 1070

LOW IDLE

control lever
position degree : 75.0

tolerance degree : \pm 4.0

control lever
position degree : 25.0

tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 330

rack travel mm : 3.40

Testing:

Rated speed rpm : 330

rack travel mm : 3.90

Tolerance mm : \pm 0.20

rack travel mm : 2.00
 Rated speed rpm : 420
 Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 9.40
 Tolerance mm : \pm 0.05

Rated speed rpm : 700
 rack travel mm : 9.20
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 9.40
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 rack travel mm : 7.40
 Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 550
 rack travel mm : 1.70
 Tolerance mm : \pm 0.20

Pressure hPa : 260
 rack travel mm : 0.25
 Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 700
 Del. quantity
 cm³/1000 strokes : 247.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed

Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 700
 Del. quantity
 cm³/1000 strokes : 192.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 8.40
 Rated speed rpm : 870
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.50
 Tolerance mm : \pm 0.50
 Del. quantity
 cm³/1000 strokes : 155.0
 Tolerance
 cm³/1000 strokes : \pm 15.0
 Check tolerance
 cm³/1000S. : \pm 19.0

LOW IDLE

Del. quantity
 cm³/1000 strokes : 45.0
 Tolerance
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95

Test oil : ISO 4113

Combination No. : 0 402 676 824

Injection pump

Pump designation : PE6P120A32ORS7365

EP type number : 0 412 626 940

Governor

Governer design. : RSV300...900P1A594

: -1

Governer no. : 0 421 833 477

Cust. part No. : 11031889 P03 v.09.95

Customer-spec. information

Customer : VME

Motor : TD 122 KIE

Power KW : 284.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde
assembly

: 1 688 901 103

Opening pressure
bar

: 208.5

Tolerance bar : ± 1.5

A15

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.00

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.60
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 292.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 45.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance

cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 292.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 50.0
tolerance degree : \pm 4.0

control lever
position degree : 107.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 9.60
Rated speed rpm : 935
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1005
Tolerance 1/min : \pm 15

rack travel mm : 0.80
Tolerance mm : \pm 0.50
Rated speed rpm : 1130

LOW IDLE

control lever
position degree : 82.0
tolerance degree : \pm 4.0

control lever
position degree : 25.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 330
rack travel mm : 3.40

Testing:

Rated speed rpm : 330
rack travel mm : 3.90
Tolerance mm : \pm 0.20

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.60
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 10.10
Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.60
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.40
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 700
rack travel mm : 2.90
Tolerance mm : +- 0.20

Pressure hPa : 260
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 275.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0
Spreed

Tolerance
cm3/1000 strokes : 10.0
Check tolerance
cm3/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 192.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 935
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm3/1000 strokes : 155.0
Tolerance
cm3/1000 strokes : +- 15.0
Check tolerance
cm3/1000S. : +- 19.0

LOW IDLE

Del. quantity
cm3/1000 strokes : 45.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.09.95
Test oil : ISO 4113
Combination No. : 0 402 846 053
Injection pump
Pump designation : PE6P120A320RS8015
EP type number : 0 412 826 016
Governor
Governor design. : RQV300...1050PA1027K
Governor no. : 0 421 815 311
Cust. part No. : 11031702
: -P03 V.09/95

Customer-spec. information
Customer : VME
Motor : TD122KHE

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 2 417 413 078
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 4.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 11.00
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800
Rack travel in mm : 10.00
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 231.0
Tolerance
cm3/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance

cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.09
Tolerance mm : + 0.25

Rated speed rpm : 1096
guide sleeve
travel mm : 9.66
Tolerance mm : + 0.25

Rated speed rpm : 771
guide sleeve
travel mm : 6.39
Tolerance mm : + 0.25

Rated speed rpm : 316
guide sleeve
travel mm : 2.30
Tolerance mm : + 0.25

Rated speed rpm : 366
guide sleeve
travel mm : 2.96
Tolerance mm : + 0.25

Rated speed rpm : 470
guide sleeve
travel mm : 3.79
Tolerance mm : + 0.25

Rated speed rpm : 1370

guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1280

Rack travel in mm : 8.50
Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 63.0
tolerance degree : + 4.0

control lever
position degree : 115.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.30
Rated speed rpm : 1085
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1270

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

control lever
position degree : 19.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.20
Tolerance mm : \pm 0.30

Rated speed rpm : 200
CRT mm min. : $>$ 5.80

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 10.00
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 10.30
Tolerance mm : \pm 0.10

Rated speed rpm : 550
rack travel mm : 10.80
Tolerance mm : \pm 0.10

Rated speed rpm : 690
rack travel mm : 10.30
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1500
rack travel mm : 10.80
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 550
rack travel mm : 8.50
Tolerance mm : \pm 0.10

Rated speed rpm : 550

Pressure hPa : 600
rack travel mm : 1.90
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 219.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 285.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 208.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.30
Rated speed rpm : 1085
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000s. : \pm 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 25.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 060

Injection pump
Pump designation : PE6P120A320RS8015
EP type number : 0 412 826 016

Governor
Governor design. : RQV300...1050PA1141
Governor no. : 0 421 814 091

Cust. part No. : 11031819
: -P03 V. 2.95

Customer-spec. information

Customer : VME
Motor : TD122KFE-P5880
Power KW : 296.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.30
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 298.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 2.09
Tolerance mm : \pm 0.25

Rated speed rpm : 1096
guide sleeve
travel mm : 7.97
Tolerance mm : \pm 0.25

Rated speed rpm : 1026
guide sleeve
travel mm : 6.87
Tolerance mm : \pm 0.25

Rated speed rpm : 387
guide sleeve
travel mm : 2.96
Tolerance mm : \pm 0.25

Rated speed rpm : 437

guide sleeve
travel mm : 3.71
Tolerance mm : \pm 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 4.67
Tolerance mm : \pm 0.25

Rated speed rpm : 1300
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1190

Rack travel in mm : 9.50
Tolerance mm : \pm 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 298.0
Tolerance

cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 62.0
tolerance degree : \pm 4.0

control lever
position degree : 126.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.30
Rated speed rpm : 1110
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1185

Tolerance 1/min : + 15
rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1280

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

control lever
position degree : 12.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 3.80
Tolerance mm : + 0.30

Rated speed rpm : 225
CRT mm min. : > 5.40

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.30
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 10.45
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : + 0.25

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : 850
rack travel mm : 3.00
Tolerance mm : + 0.20

Pressure hPa : 300
rack travel mm : 0.25
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : > 230

Check
speed 1/min : > 80
Check
speed 1/min : > 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 188.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 10.30
Rated speed rpm : 1110
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 068

Injection pump
Pump designation : PE6P110A320RS8036
EP type number : 0 412 816 012

Governor
Governor design. : RQV300...1200PA1043
 : -2
Governor no. : 0 421 814 155

Cust. part No. : 11030951
 : -P02 v.09.95

Customer-spec. information

Customer : VME
Motor : TD73KCE
Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

A27

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.80
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.50
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance

cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.19
Tolerance mm : + 0.25

Rated speed rpm : 1256
guide sleeve
travel mm : 8.24
Tolerance mm : + 0.25

Rated speed rpm : 857
guide sleeve
travel mm : 5.21
Tolerance mm : + 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 1.98
Tolerance mm : + 0.25

Rated speed rpm : 435
guide sleeve
travel mm : 2.45
Tolerance mm : + 0.25

Rated speed rpm : 520

guide sleeve
travel mm : 3.04
Tolerance mm : + 0.25

Rated speed rpm : 1550
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1285

Rack travel in mm : 16.50
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance

cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 47.0
tolerance degree : + 4.0

control lever
position degree : 115.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.80
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1350
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 80.0
tolerance degree : \pm 4.0

control lever
position degree : 14.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 6.60
Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.80
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.80
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 880
rack travel mm : 3.60
Tolerance mm : \pm 0.20

Pressure hPa : 240
rack travel mm : 0.25

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 069

Injection pump
Pump designation : PE6P110A320RS8009-1
EP type number : 0 412 816 011

Governor
Governor design. : RQV300...1050PA1183
: -1
Governor no. : 0 421 814 159

Cust. part No. : 11030952
: -P02 V.09/95

Customer-spec. information

Customer : VME
Motor : TD 73 KDE
Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

B02

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.90
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 178.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.50
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 24.0
Tolerance

cm³/1000 strokes : + 2.5
Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.19
Tolerance mm : + 0.25

Rated speed rpm : 1132
guide sleeve
travel mm : 8.13
Tolerance mm : + 0.25

Rated speed rpm : 814
guide sleeve
travel mm : 5.26
Tolerance mm : + 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 1.98
Tolerance mm : + 0.25

Rated speed rpm : 435
guide sleeve
travel mm : 2.45
Tolerance mm : + 0.25

Rated speed rpm : 530

guide sleeve
travel mm : 3.11
Tolerance mm : + 0.25

Rated speed rpm : 1400
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1220

Rack travel in mm : 11.00
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 45.0
tolerance degree : + 4.0

control lever
position degree : 113.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.90
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 80.0
tolerance degree : \pm 4.0

control lever
position degree : 14.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.30

Rated speed rpm : 200

CRT mm min. : $>$ 6.60

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.90
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.00
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 710
rack travel mm : 2.60
Tolerance mm : \pm 0.20

Pressure hPa : 270
rack travel mm : 0.25

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.90
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.95
Test oil : ISO 4113

Combination No. : 0 402 896 014

Injection pump
Pump designation : PE6P120A720RS8029
EP type number : 0 412 826 028

Governor
Governor design. : RE30
Governor no. : 0 421 890 021

Cust. part No. : 1361126

Customer-spec. information
Customer : SCANIA
Motor : DSC1124

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 240
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.1

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in

stop position.
CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 340.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 309.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.95
Test oil : ISO 4113
Combination No. : 0 402 896 015
Injection pump
Pump designation : PE6P120A320RS8033
EP type number : 0 412 826 031
Governor
Governor design. : RE30
Governor no. : 0 421 890 027
Cust. part No. : 425758 P03 rel v8/95

Customer-spec. information
Customer : VOLVO-TRUCK
Motor : DH 10 A
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 073
Inlet press. bar : 3.0
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 600
Uact V : 2.800
Del. quantity
cm3/1000 strokes : 295.0
Tolerance
cm3/1000 strokes : +/- 1.0
Check tolerance
cm3/1000S. : +/- 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 11.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 2.800
Del. quantity
cm3/1000 strokes : 252.0
Tolerance
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0
Spreed
Tolerance
cm3/1000 strokes : 10.0
Check tolerance
cm3/1000S. : 14.0

Rated speed rpm : 950
Uact V : 2.200
Del. quantity
cm3/1000 strokes : 178.0
Tolerance
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
Test oil : ISO 4113
Combination No. : 0 402 896 016
Injection pump
Pump designation : PE6P120A32ORS8034
EP type number : 0 412 826 032
Governor
Governor design. : RE30
Governor no. : 0 421 890 028

Cust. part No. : 8194088 P03 rel 8/95

Customer-spec. information
Customer : VOLVO-TRUCK
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 073

Inlet press. bar : 3.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 11.00

Rack travel in mm : 11.00
Tolerance mm : ± 0.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 600
Uact V : 2.800
Del. quantity
cm³/1000 strokes : 303.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 2.800
Del. quantity
cm³/1000 strokes : 261.0
Tolerance
cm³/1000 strokes : +/- 3.0
Check tolerance
cm³/1000S. : +/- 6.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0
Rated speed rpm : 950
Uact V : 2.200
Del. quantity
cm³/1000 strokes : 181.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.08.95
Test oil : ISO 4113

Combination No. : 0 400 462 048

Injection pump
Pump designation : PES2A80D320/3RS1298
EP type number : 0 410 482 015

Governor
Governor design. : RSV300...1000A7C505R
Governor no. : 0 420 233 188

Cust. part No. :

Customer-spec. information

Customer : MWM
Motor : D226-2

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Firing order : 1- 2

Phasing : 0-90
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Del. quantity
cm3/1000 strokes : 48.5

Tolerance
cm3/1000 strokes : ± 0.5

Check tolerance
cm3/1000S. : ± 2.0

Spreed
Tolerance
cm3/1000 strokes : 2.5

Check tolerance
cm3/1000S. : 4.0

Rated speed rpm : 300

Rack travel in mm : 7.50
Tolerance mm : ± 0.20

Del. quantity
cm3/1000 strokes : 11.0

Tolerance
cm3/1000 strokes : ± 3.0

Check tolerance
cm3/1000S. : ± 4.5

Spreed
Tolerance
cm3/1000 strokes : 2.0

Check tolerance
cm3/1000S. : 3.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : \pm 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 48.5
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 62.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.70
Rated speed rpm : 1025
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1055
Tolerance 1/min : \pm 15

rack travel mm : 1.00
Tolerance mm : \pm 0.70
Rated speed rpm : 1210

rack travel mm : 4.00
Rated speed rpm : 1065

LOW IDLE

B15

control lever
position degree : 25.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 7.50

Testing:

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.50

BREAKAWAY

Rack travel in mm : 8.70
Rated speed rpm : 1025
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75

Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000S. : \pm 11.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000s. : 3.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.08.95
Test oil : ISO 4113

Combination No. : 0 400 464 105

Injection pump
Pump designation : PES4A80D320/3RS1301
EP type number : 0 410 484 016

Governor
Governor design. : RSV325...1500A2C505R
Governor no. : 0 420 233 187

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D226-4

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Del. quantity
cm3/1000 strokes : 48.5

Tolerance
cm3/1000 strokes : ± 0.5

Check tolerance
cm3/1000S. : ± 2.0

Speed
Tolerance
cm3/1000 strokes : 2.5

Check tolerance
cm3/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 7.50
Tolerance mm : ± 0.20

Del. quantity
cm3/1000 strokes : 13.0

Tolerance
cm3/1000 strokes : ± 3.0

Check tolerance
cm3/1000S. : ± 4.5

Speed
Tolerance
cm3/1000 strokes : 2.0

Check tolerance
cm3/1000S. : 3.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : \pm 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1480
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 48.5
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 55.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.00
Rated speed rpm : 1525
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1560
Tolerance 1/min : \pm 15

rack travel mm : 1.00
Tolerance mm : \pm 0.70
Rated speed rpm : 1720

rack travel mm : 4.00
Rated speed rpm : 1570

LOW IDLE

B18

control lever
position degree : 16.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 7.50

Testing:

Rated speed rpm : 325
rack travel mm : 7.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 475
Tolerance 1/min : \pm 30

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

BREAKAWAY

Rack travel in mm : 8.00
Rated speed rpm : 1525
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325

rack travel mm	:	7.50
Tolerance mm	:	± 0.20
Del. quantity		
cm ³ /1000 strokes	:	13.0
Tolerance		
cm ³ /1000 strokes	:	± 3.0
Check tolerance		
cm ³ /1000S.	:	± 4.5
Speed		
Tolerance		
cm ³ /1000 strokes	:	2.0
Check tolerance		
cm ³ /1000S.	:	3.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.08.95
Test oil : ISO 4113
Combination No. : 0 400 464 116
Injection pump
Pump designation : PES4A75D410/3RS1255
EP type number : 0 410 474 966
Governor
Governor design. : RSV325...900A7C602L
Governor no. : 0 420 232 320

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F4L912

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 000
Inlet press. bar : 1.0
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0

B20

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 880
Rack travel in mm : 11.25
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 44.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.0
Speed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.5
Rated speed rpm : 325
Rack travel in mm : 8.70
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : + 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : + 0.35

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 44.0
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.5

CONTROL LEVER

control lever
position degree : 54.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.20
Rated speed rpm : 925
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 960
Tolerance 1/min : + 15

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1050

LOW IDLE

control lever
position degree : 25.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.70

Testing:

Rated speed rpm : 325
rack travel mm : 8.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : + 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 880
rack travel mm : 11.25
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 11.30
Tolerance mm : + 0.10

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 925
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.05.95
Test oil : ISO 4113
Combination No. : 0 400 464 118
Injection pump
Pump designation : PES4A75D410/3RS1255
EP type number : 0 410 474 966
Governor
Governor design. : RSV325...1400A8C742L
Governor no. : 0 420 232 342

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F4L912

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 11.55
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 55.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.5
Rated speed rpm : 325
Rack travel in mm : 6.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm3/1000S. : +- 4.5
Spreed
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000S. : 3.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : +- 0.20
governor spring
pre-tension
click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 55.5
Tolerance
cm3/1000 strokes : +- 0.5
Check tolerance
cm3/1000S. : +- 2.0
Spreed
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000S. : 3.5

CONTROL LEVER

control lever
position degree : 72.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.00
Rated speed rpm : 1445
Tolerance 1/min : +- 5
rack travel mm : 4.00
Rated speed rpm : 1485
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1600
rack travel mm : 4.00
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 14.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 5.50

Testing:

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 550
Tolerance 1/min : +- 30

TORQUE CONTROL

Dimension a mm : 0.90
Rated speed rpm : 1400
rack travel mm : 11.55
Tolerance mm : +- 0.05

Rated speed rpm : 500
rack travel mm : 12.45
Tolerance mm : +- 0.05

Rated speed rpm : 900
rack travel mm : 12.30
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 51.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1445
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.07.92
Test oil : ISO 4113

Combination No. : 0 400 466 099

Injection pump
Pump designation : PES6A75D410/3RS1360
EP type number : 0 410 476 976

Governor
Governor design. : RSV325...1150A8C494
 : -4L
Governor no. : 0 420 232 572

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F6L912
Power KW : 74.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 52.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Spreed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm3/1000S. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000S. : 3.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 4.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 52.0
Tolerance
cm3/1000 strokes : + 0.5
Check tolerance
cm3/1000S. : + 2.0
Spreed
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 106.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.10
Rated speed rpm : 1195
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1240
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 7.20

Testing:

Rated speed rpm : 325
rack travel mm : 6.70
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 465
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 11.15
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 12.40
Tolerance mm : + 0.10

Rated speed rpm : 950
rack travel mm : 11.70
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.08.95
Test oil : ISO 4113

Combination No. : 0 400 474 160

Injection pump
Pump designation : PES4A80D420LS1345
EP type number : 0 410 484 020

Governor
Governor design. : RSV350...1300A5C2183
Governor no. : 0 420 233 194

Cust. part No. :

Customer-spec. information
Customer : LOMBARDINI
Motor : LDA 934

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Del. quantity
cm³/1000 strokes : 60.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.50
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 11.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 4.5

Speed
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000S. : 3.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : \pm 0.20
governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 60.5
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 100.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.50
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1315
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1490

rack travel mm : 4.00
Rated speed rpm : 1330

LOW IDLE

control lever
position degree : 65.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.50

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 445
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.50

BREAKAWAY

Rack travel in mm : 8.50
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 6.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.04.95
Test oil : ISO 4113
Combination No. : 0 400 846 327
Injection pump
Pump designation : PES6A90D410RS2293
EP type number : 0 410 896 031
Governor
Governor design. : RQV300...1400AB880DL
Governor no. : 0 420 214 187

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 352
Power KW : 88.3

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1380

Rack travel in mm : 9.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 60.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000s. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000s. : 4.5

Rated speed rpm : 300

Rack travel in mm : > 7.70
Tolerance mm : ± 0.20

Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1420
 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1380
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 60.0
 Tolerance
 cm³/1000 strokes : ± 0.5
 Check tolerance
 cm³/1000S. : ± 2.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 4.5

CONTROL LEVER

control lever
 position degree : 59.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.70
 Rated speed rpm : 1425
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1525
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1650

LOW IDLE

control lever
 position degree : 14.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 7.70
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 9.20

Rated speed rpm : 450

TORQUE CONTROL

Rated speed rpm : 1380
 rack travel mm : 9.75
 Tolerance mm : ± 0.05

Rated speed rpm : 600
 rack travel mm : 10.35
 Tolerance mm : ± 0.05

Rated speed rpm : 885
 rack travel mm : 10.20
 Tolerance mm : ± 0.10

Rated speed rpm : 1160
 rack travel mm : 9.85
 Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : > 100
 Rated speed rpm : < 220

Check
 speed 1/min : > 80
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 49.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 8.70
Rated speed rpm : 1425
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.00
Tolerance mm : ± 0.20

LOW IDLE

Rated speed rpm : 300
rack travel mm : > 7.70
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.05.95
Test oil : ISO 4113
Combination No. : 0 400 863 012
Injection pump
Pump designation : PES3A85D410/3RS2731
EP type number : 0 410 883 988
Governor
Governor design. : RSV325...1250A2C2168
 : -3L
Governor no. : 0 420 232 475

Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : F3L913
Power KW : 44.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 9.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 69.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 6.30
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 13.0

Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000S. : + 5.0
 Spread
 Tolerance
 cm3/1000 strokes : 2.5
 Check tolerance
 cm3/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
 Aneroid pressure
 hPa : -
 Del. quantity
 cm3/1000 strokes : 69.0
 Tolerance
 cm3/1000 strokes : + 0.5
 Check tolerance
 cm3/1000S. : + 2.5
 Spread
 Tolerance
 cm3/1000 strokes : 3.0
 Check tolerance
 cm3/1000S. : 5.0

CONTROL LEVER

control lever
 position degree : 95.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.90
 Rated speed rpm : 1295
 Tolerance 1/min : + 5
 rack travel mm : 4.00

Rated speed rpm : 1330
 Tolerance 1/min : + 15
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1500

rack travel mm : 4.00
 Rated speed rpm : 1345

LOW IDLE

control lever
 position degree : 66.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 5.80

Testing:

Rated speed rpm : 325
 rack travel mm : 6.30
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 490
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 0.40
 Rated speed rpm : 1250
 rack travel mm : 9.95
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 10.25
 Tolerance mm : + 0.05

Rated speed rpm : 960
 rack travel mm : 10.00
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 8.90
Rated speed rpm : 1295
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.10
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.30
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.04.95
Test oil : ISO 4113
Combination No. : 0 400 863 014
Injection pump
Pump designation : PES3A85D410/3RS2642
EP type number : 0 410 883 989
Governor
Governor design. : RSV325...1000A8C2102
: -2L
Governor no. : 0 420 232 507

Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : F3L913
Power KW : 37.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 63.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 7.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 12.0

Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000s. : + 5.0
 Spread
 Tolerance
 cm3/1000 strokes : 2.5
 Check tolerance
 cm3/1000s. : 4.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 4.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : -
 Del. quantity
 cm3/1000 strokes : 63.0
 Tolerance
 cm3/1000 strokes : + 0.5
 Check tolerance
 cm3/1000s. : + 2.5
 Spread
 Tolerance
 cm3/1000 strokes : 3.0
 Check tolerance
 cm3/1000s. : 5.0

CONTROL LEVER

control lever
 position degree : 94.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.00
 Rated speed rpm : 1045
 Tolerance 1/min : + 5
 rack travel mm : 4.00

Rated speed rpm : 1075
 Tolerance 1/min : + 15
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1240

rack travel mm : 4.00
 Rated speed rpm : 1090

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.10

Testing:

Rated speed rpm : 325
 rack travel mm : 7.60
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 440
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 0.50
 Rated speed rpm : 1000
 rack travel mm : 10.05
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 10.55
 Tolerance mm : + 0.05

Rated speed rpm : 855
 rack travel mm : 10.30
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 9.00
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.06.95
Test oil : ISO 4113
Combination No. : 0 400 864 054
Injection pump
Pump designation : PES4A85D410/3RS2638
EP type number : 0 410 884 950
Governor
Governor design. : RSV325...1150A0C2168
: L
Governor no. : 0 420 232 364

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF4L913
Power KW : 66.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1110

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 80.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 4.5

Rated speed rpm : 325

Rack travel in mm : 7.70
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1110
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 80.5
 Tolerance
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 2.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 4.5

CONTROL LEVER

control lever
 position degree : 105.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.30
 Rated speed rpm : 1160
 Tolerance 1/min : + 5
 rack travel mm : 4.00

Rated speed rpm : 1265
 Tolerance 1/min : + 15
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1430
 rack travel mm : 4.00
 Rated speed rpm : 1335

LOW IDLE

control lever
 position degree : 81.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.70

Testing:

Rated speed rpm : 325
 rack travel mm : 7.20
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 555
 Tolerance 1/min : + 25

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1110
 rack travel mm : 12.35
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 13.15
 Tolerance mm : + 0.05

Rated speed rpm : 940
 rack travel mm : 12.80
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 80.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1160
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.70
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.05.95
Test oil : ISO 4113
Combination No. : 0 400 864 057
Injection pump
Pump designation : PES4A90D320/3RS2659
EP type number : 0 410 894 028
Governor
Governor design. : RSV325...1500A2C505
Governor no. : 0 420 233 196

Cust. part No. :

Customer-spec. information

Customer : MWM
Motor : D226B-4
Power KW : 73.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Beginning of delivery difference

and maximum rack
travel : 9.00
Difference ° CS : 4.00

BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 11.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 90.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 7.10
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1500
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 90.5
 Tolerance
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 2.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 5.0

CONTROL LEVER

control lever
 position degree : 113.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.50
 Rated speed rpm : 1545
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1605
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1780

rack travel mm : 4.00
 Rated speed rpm : 1630

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 6.60

Testing:

Rated speed rpm : 325
 rack travel mm : 7.10
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 495
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1500
 rack travel mm : 11.25
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 11.30
 Tolerance mm : + 0.10

BREAKAWAY

Rack travel in mm : 9.50
Rated speed rpm : 1545
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.10
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.09.95
Test oil : ISO 4113
Combination No. : 0 400 864 087
Injection pump
Pump designation : PES4A85D410/3RS2799
EP type number : 0 410 884 944
Governor
Governor design. : RSV325...1075A8C2253
 : -1L
Governor no. : 0 420 232 555
Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF4L913
Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 11.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 78.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
 cm3/1000S. : 7.0
 Rated speed rpm : 475
 Rack travel in mm : 7.20
 Tolerance mm : \pm 0.10
 Del. quantity
 cm3/1000 strokes : 14.0
 Tolerance
 cm3/1000 strokes : \pm 2.0
 Check tolerance
 cm3/1000S. : \pm 4.0
 Spread
 Tolerance
 cm3/1000 strokes : 4.5
 Check tolerance
 cm3/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20
 governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm3/1000 strokes : 78.5
 Tolerance
 cm3/1000 strokes : \pm 0.5
 Check tolerance
 cm3/1000S. : \pm 2.5
 Spread
 Tolerance
 cm3/1000 strokes : 3.0
 Check tolerance
 cm3/1000S. : 7.0

CONTROL LEVER

control lever
 position degree : 101.0

tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.60
 Rated speed rpm : 1025
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : \pm 15

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1250

rack travel mm : 4.00
 Rated speed rpm : 1100

LOW IDLE

control lever
 position degree : 77.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 475
 rack travel mm : 6.70

Testing:

Rated speed rpm : 475
 rack travel mm : 7.20
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 590

TORQUE CONTROL

Rated speed rpm : 980
 rack travel mm : 11.60
 Tolerance mm : \pm 0.05

Rated speed rpm : 500
 rack travel mm : 12.15
 Tolerance mm : \pm 0.05

Rated speed rpm : 700
 rack travel mm : 12.10
 Tolerance mm : \pm 0.05

Rated speed rpm : 825
 rack travel mm : 11.80
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.15
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 310
rack travel mm : 11.30
Tolerance mm : \pm 0.10

Pressure hPa : 400
rack travel mm : 11.60
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 79.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.5

BREAKAWAY

Rack travel in mm : 10.60

Rated speed rpm : 1025
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.80
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 475
rack travel mm : 7.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.95
Test oil : ISO 4113
Combination No. : 0 400 864 089
Injection pump
Pump designation : PES4A85D410/3RS2799
EP type number : 0 410 884 944
Governor
Governor design. : RSV325...1075A8C2253
: -3L
Governor no. : 0 420 232 547

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF4L913
Power KW : 70.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 000
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1075
Rack travel in mm : 11.95
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000s. : ± 2.5
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000s. : 5.0
Rated speed rpm : 325
Rack travel in mm : 8.30
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 15.0

Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000s. : + 5.0
 Spread
 Tolerance
 cm3/1000 strokes : 2.5
 Check tolerance
 cm3/1000s. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm3/1000 strokes : 80.0
 Tolerance
 cm3/1000 strokes : + 0.5
 Check tolerance
 cm3/1000s. : + 2.5
 Spread
 Tolerance
 cm3/1000 strokes : 3.0
 Check tolerance
 cm3/1000s. : 5.0

CONTROL LEVER

control lever
 position degree : 99.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90
 Rated speed rpm : 1120
 Tolerance 1/min : + 5
 rack travel mm : 4.00

Rated speed rpm : 1165
 Tolerance 1/min : + 15
 rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 1315

LOW IDLE

control lever
 position degree : 68.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
 rack travel mm : 8.30
 Tolerance mm : + 0.10
 rack travel mm : 2.00
 Rated speed rpm : 380
 Tolerance 1/min : + 30
 Rated speed rpm : 100
 CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

TORQUE CONTROL

Rated speed rpm : 1075
 rack travel mm : 11.95
 Tolerance mm : + 0.05
 Rated speed rpm : 500
 rack travel mm : 12.45
 Tolerance mm : + 0.05
 Rated speed rpm : 860
 rack travel mm : 12.30
 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1000
 rack travel mm : 12.45
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.45
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 250
rack travel mm : 11.80
Tolerance mm : \pm 0.10

Pressure hPa : 330
rack travel mm : 12.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 80.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 58.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 120.0

Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.06.95
Test oil : ISO 4113
Combination No. : 0 400 865 017
Injection pump
Pump designation : PES5A80D410/3RS2526
EP type number : 0 410 885 004
Governor
Governor design. : RSV325...1400A8C540L
Governor no. : 0 420 232 311

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F5L912
Power KW : 62.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 000
Inlet press. bar : 1.0
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 5- 4- 2
Phasing : 0-72-144-216-288
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1380

Rack travel in mm : 11.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 65.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000S. : 3.5

Rated speed rpm : 325

Rack travel in mm : 8.10
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 9.0

Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 3.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1380
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 65.5
 Tolerance
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 3.5

CONTROL LEVER

control lever
 position degree : 116.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.50
 Rated speed rpm : 1425
 Tolerance 1/min : + 5
 rack travel mm : 4.00

Rated speed rpm : 1470
 Tolerance 1/min : + 15

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 1650

rack travel mm : 4.00
 Rated speed rpm : 1520

LOW IDLE

control lever
 position degree : 69.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 8.10

Testing:

Rated speed rpm : 325
 rack travel mm : 7.60
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 655
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1380
 rack travel mm : 11.55
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 12.75
 Tolerance mm : + 0.05

Rated speed rpm : 900
 rack travel mm : 12.25
 Tolerance mm : + 0.15

BREAKAWAY

Rack travel in mm : 10.50
 Rated speed rpm : 1425
 Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 3.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.10.84
Test oil : ISO 4113
Combination No. : 0 400 866 078
Injection pump
Pump designation : PES6A85D410/3RS2415
EP type number : 0 410 886 915
Governor
Governor design. : RSV325...900A7C720L
Governor no. : 0 420 232 339

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF6L913

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 000
Inlet press. bar : 1.0
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0
x inside diameter : 2.0

028

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 900
Rack travel in mm : 11.85
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 68.5
Tolerance
cm3/1000 strokes : ± 0.5
Check tolerance
cm3/1000S. : ± 2.5
Speed
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000S. : 4.5
Rated speed rpm : 325
Rack travel in mm : 8.10
Tolerance mm : ± 0.20
Del. quantity
cm3/1000 strokes : 12.0

Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000S. : + 5.0
 Spreed
 Tolerance
 cm3/1000 strokes : 2.0
 Check tolerance
 cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
 Aneroid pressure
 hPa : -
 Del. quantity
 cm3/1000 strokes : 68.5
 Tolerance
 cm3/1000 strokes : + 0.5
 Check tolerance
 cm3/1000S. : + 2.5
 Spreed
 Tolerance
 cm3/1000 strokes : 3.0
 Check tolerance
 cm3/1000S. : 4.5

RATED SPEED

rack travel mm : 10.80
 Rated speed rpm : 945
 Tolerance 1/min : + 5

 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1100

 rack travel mm : 4.00
 Rated speed rpm : 995

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.60

Testing:

Rated speed rpm : 325
 rack travel mm : 8.10

DD1

Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 900
 rack travel mm : 11.85
 Tolerance mm : + 0.05

Rated speed rpm : 600
 rack travel mm : 12.35
 Tolerance mm : + 0.05

Rated speed rpm : 800
 rack travel mm : 12.15
 Tolerance mm : + 0.15

BREAKAWAY

Rack travel in mm : 10.80
 Rated speed rpm : 945
 Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 325
 rack travel mm : 8.10
 Tolerance mm : + 0.20
 Del. quantity
 cm3/1000 strokes : 12.0
 Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000S. : + 5.0
 Spreed
 Tolerance
 cm3/1000 strokes : 2.0
 Check tolerance
 cm3/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.05.95
Test oil : ISO 4113
Combination No. : 0 400 866 080
Injection pump
Pump designation : PES6A85D410/3RS2415
EP type number : 0 410 886 915
Governor
Governor design. : RSV325...1400A8C707
: -4L
Governor no. : 0 420 232 461

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF6L913

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 76.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000s. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000s. : 4.5

Rated speed rpm : 325

Rack travel in mm : 8.00
Tolerance mm : ± 0.20

Del. quantity
 cm3/1000 strokes : 12.5
 Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000S. : + 5.0
 Spreed
 Tolerance
 cm3/1000 strokes : 2.0
 Check tolerance
 cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 5.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm3/1000 strokes : 76.5
 Tolerance
 cm3/1000 strokes : + 0.5
 Check tolerance
 cm3/1000S. : + 2.5
 Spreed
 Tolerance
 cm3/1000 strokes : 3.0
 Check tolerance
 cm3/1000S. : 4.5

CONTROL LEVER

control lever
 position degree : 119.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.80
 Rated speed rpm : 1445
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1485
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1600

rack travel mm : 4.00
 Rated speed rpm : 1520

LOW IDLE

control lever
 position degree : 68.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.50

Testing:

Rated speed rpm : 325
 rack travel mm : 8.00
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 630
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 1.20
 Rated speed rpm : 1400
 rack travel mm : 10.85
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 12.05
 Tolerance mm : + 0.05

Rated speed rpm : 1040
 rack travel mm : 11.50
 Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 12.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 95
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Pressure hPa : 360
rack travel mm : 11.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 45.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1445
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.20
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.08.95
Test oil : ISO 4113
Combination No. : 0 400 866 143
Injection pump
Pump designation : PES6A95D120RS2773
EP type number : 0 410 896 904
Governor
Governor design. : RSV350...1250A0C2237
: R
Governor no. : 0 420 233 240

Cust. part No. :

Customer-spec. information
Customer : CUMMINS
Motor : 6BT
Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 017

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

D05

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 9.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 87.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.5

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 350

Rack travel in mm : 5.50
Tolerance mm : ± 0.20

Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 5.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : ± 0.20
 governor spring
 pre-tension
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 87.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 95.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.40
 Rated speed rpm : 1295
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1370
 Tolerance 1/min : ± 15

rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1530

rack travel mm : 4.00
 Rated speed rpm : 1385

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 5.50

Testing:

Rated speed rpm : 350
 rack travel mm : 5.00
 Tolerance mm : ± 0.10

rack travel mm : 2.00
 Rated speed rpm : 495
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1250
 rack travel mm : 9.45
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 rack travel mm : 9.50
 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 71.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 8.40
Rated speed rpm : 1295
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.50
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.08.95
Test oil : ISO 4113
Combination No. : 0 400 866 152
Injection pump
Pump designation : PES6A85D410/3RS2783
EP type number : 0 410 886 893
Governor
Governor design. : RSV325...1250A5C2239
Governor no. : L
Governor no. : 0 420 232 526

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F6L912F
Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1235

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 70.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 6.00
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20
governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1235
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.5
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 5.0

CONTROL LEVER

control lever
position degree : 107.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.80
Rated speed rpm : 1280
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1345
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1510

rack travel mm : 4.00
Rated speed rpm : 1360

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 6.00

Testing:

Rated speed rpm : 325
rack travel mm : 5.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : ± 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1235
rack travel mm : 11.85
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.90
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 56.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1280
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.08.95
Test oil : ISO 4113
Combination No. : 0 400 866 169
Injection pump
Pump designation : PES6A85D410/3RS2611
EP type number : 0 410 886 902
Governor
Governor design. : RSV325...1250A2C540
Governor no. : 0 420 232 565

Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : F6L913
Power KW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 63.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 7.00
Tolerance mm : ± 0.20

Del. quantity
 cm³/1000 strokes : 15.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : ± 0.20
 governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 63.0
 Tolerance
 cm³/1000 strokes : ± 0.5
 Check tolerance
 cm³/1000S. : ± 2.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 5.0

CONTROL LEVER

control lever
 position degree : 102.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.50
 Rated speed rpm : 1295
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1365
 Tolerance 1/min : ± 15

rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1525

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
 rack travel mm : 7.00
 Tolerance mm : ± 0.10

rack travel mm : 2.00
 Rated speed rpm : 440
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

TORQUE CONTROL

Rated speed rpm : 1250
 rack travel mm : 10.55
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 rack travel mm : 11.15
 Tolerance mm : ± 0.05

Rated speed rpm : 1000
 rack travel mm : 10.80
 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 800

Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

BREAKAWAY

Rack travel in mm : 9.50
Rated speed rpm : 1295
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.80
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.95
Test oil : ISO 4113
Combination No. : 0 400 866 173
Injection pump
Pump designation : PES6A85D410/3RS2611
EP type number : 0 410 886 902
Governor
Governor design. : RSV325...1200A0C2148
Governor no. : 0 420 232 567

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F6L913 H
Power KW : 85.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 62.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 5.0

Rated speed rpm : 325

Rack travel in mm : 8.50
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20
governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 62.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.5
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 5.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.40
Rated speed rpm : 1245
Tolerance 1/min : ± 5

D15

rack travel mm : 4.00
Rated speed rpm : 1310
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1460

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 8.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 470
Tolerance 1/min : ± 30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 30

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 10.45
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 11.10
Tolerance mm : ± 0.10

Rated speed rpm : 800
rack travel mm : 11.10
Tolerance mm : ± 0.10

Rated speed rpm : 1050
rack travel mm : 10.80
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800

Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.5

BREAKAWAY

Rack travel in mm : 9.40
Rated speed rpm : 1245
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.80
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.50
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.05.95
Test oil : ISO 4113
Combination No. : 0 400 874 253
Injection pump
Pump designation : PES4A85D410/3RS2799
: -2
EP type number : 0 410 884 941
Governor
Governor design. : RSV325...1150A8C2239
: -6L
Governor no. : 0 420 232 582

Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : BF4L913
Power KW : 70.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 11.55
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000s. : ± 2.5
Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000s. : 5.0
Rated speed rpm : 325
Rack travel in mm : 7.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000S. : + 5.0
Spreed
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : + 0.20
governor spring
pre-tension
click setting x : 4.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 80.0
Tolerance
cm3/1000 strokes : + 0.5
Check tolerance
cm3/1000S. : + 2.5
Spreed
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000S. : 5.0

CONTROL LEVER

control lever
position degree : 101.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.50
Rated speed rpm : 1095
Tolerance 1/min : + 5
rack travel mm : 4.00

Rated speed rpm : 1135
Tolerance 1/min : + 15
rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1330
rack travel mm : 4.00
Rated speed rpm : 1160

LOW IDLE

control lever
position degree : 70.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 7.10

Testing:

Rated speed rpm : 325
rack travel mm : 7.60
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 465
Tolerance 1/min : + 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.55
Tolerance mm : + 0.05

Rated speed rpm : 730
rack travel mm : 12.15
Tolerance mm : + 0.05

Rated speed rpm : 885
rack travel mm : 11.80
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 730
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 3.5

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.80
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000s. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000s. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.05.95
Test oil : ISO 4113
Combination No. : 0 400 876 274
Injection pump
Pump designation : PES6A95D410RS2471
EP type number : 0 410 896 952
Governor
Governor design. : RSV325...1150A8C707
: -6L
Governor no. : 0 420 232 532

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF6L913C
Power KW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 109.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 325

Rack travel in mm : 7.30
Tolerance mm : ± 0.20

Del. quantity
 cm3/1000 strokes : 12.0
 Tolerance
 cm3/1000 strokes : \pm 3.0
 Check tolerance
 cm3/1000S. : \pm 5.5
 Spreed
 Tolerance
 cm3/1000 strokes : 3.5
 Check tolerance
 cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm3/1000 strokes : 109.0
 Tolerance
 cm3/1000 strokes : \pm 1.0
 Check tolerance
 cm3/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm3/1000 strokes : 3.5
 Check tolerance
 cm3/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 106.0
 tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.80
 Rated speed rpm : 1195
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1250
 Tolerance 1/min : \pm 15

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1400

rack travel mm : 4.00
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 71.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 6.80

Testing:

Rated speed rpm : 325
 rack travel mm : 7.30
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 615
 Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.50

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 11.85
 Tolerance mm : \pm 0.05

Rated speed rpm : 500
 rack travel mm : 11.90
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 700
 rack travel mm : 11.85
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.95
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 93
rack travel mm : 10.20
Tolerance mm : \pm 0.10

Pressure hPa : 373
rack travel mm : 11.55
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
Check tolerance
cm³/1000s. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 63.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.70
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000s. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 5.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000s. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.06.95
Test oil : ISO 4113
Combination No. : 0 400 876 275
Injection pump
Pump designation : PES6A95D410RS2471
EP type number : 0 410 896 952
Governor
Governor design. : RSV325...1150A8C674
 : -3L
Governor no. : 0 420 232 543

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF6L913C
Power KW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 000
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 11.85
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 109.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0
Rated speed rpm : 325
Rack travel in mm : 7.30
Tolerance mm : ± 0.20

Del. quantity
cm3/1000 strokes : 19.0
Tolerance
cm3/1000 strokes : \pm 3.0
Check tolerance
cm3/1000S. : \pm 5.5
Spreed
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000S. : 5.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : \pm 0.20
governor spring
pre-tension
click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 700
Del. quantity
cm3/1000 strokes : 109.0
Tolerance
cm3/1000 strokes : \pm 1.0
Check tolerance
cm3/1000S. : \pm 3.0
Spreed
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 106.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.80
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1250
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1400

rack travel mm : 4.00
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 7.30

Testing:

Rated speed rpm : 325
rack travel mm : 6.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 615
Tolerance 1/min : \pm 30

Rated speed rpm : 100
CRT mm min. : $>$ 19.50

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 11.85
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 11.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700

rack travel mm : 11.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.90
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 160
rack travel mm : 10.55
Tolerance mm : \pm 0.15

Pressure hPa : 340
rack travel mm : 11.35
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 63.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.5
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 5.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.06.95
Test oil : ISO 4113
Combination No. : 0 400 876 330
Injection pump
Pump designation : PES6A95D41ORS2471
EP type number : 0 410 896 952
Governor
Governor design. : RSV325...1400A2C2205
: L
Governor no. : 0 420 232 445

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : PPM BF6L913C
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 89.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 325

Rack travel in mm : 7.60
Tolerance mm : ± 0.20

Del. quantity
 cm3/1000 strokes : 13.0
 Tolerance
 cm3/1000 strokes : ± 3.0
 Check tolerance
 cm3/1000S. : ± 5.5
 Spreed
 Tolerance
 cm3/1000 strokes : 3.5
 Check tolerance
 cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : ± 0.20
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm3/1000 strokes : 89.0
 Tolerance
 cm3/1000 strokes : ± 1.0
 Check tolerance
 cm3/1000S. : ± 3.0
 Spreed
 Tolerance
 cm3/1000 strokes : 3.5
 Check tolerance
 cm3/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 108.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.90
 Rated speed rpm : 1445
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1505
 Tolerance 1/min : ± 15

rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1675

rack travel mm : 4.00
 Rated speed rpm : 1560

LOW IDLE

control lever
 position degree : 72.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.60

Testing:

Rated speed rpm : 325
 rack travel mm : 7.10
 Tolerance mm : ± 0.10

rack travel mm : 2.00
 Rated speed rpm : 655
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1400
 rack travel mm : 10.95
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 rack travel mm : 11.00
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 650
 Pressure hPa : 700

rack travel mm : 11.00
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 650
rack travel mm : 10.25
Tolerance mm : \pm 0.05

Rated speed rpm : 650

Pressure hPa : 180
rack travel mm : 10.55
Tolerance mm : \pm 0.05

Pressure hPa : 220
rack travel mm : 10.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 81.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 9.90
Rated speed rpm : 1445
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.80
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.60
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.06.95
Test oil : ISO 4113
Combination No. : 0 400 876 387
Injection pump
Pump designation : PES6A95D410RS2625
EP type number : 0 410 896 926
Governor
Governor design. : RSV375...1200A5C2253
: -4L
Governor no. : 0 420 232 560

Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : BF6L913C
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

E01

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 86.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 375

Rack travel in mm : 6.00
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 5.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : + 0.20
governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 2.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 98.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.10
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1275
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1440

rack travel mm : 4.00
Rated speed rpm : 1295

LOW IDLE

control lever
position degree : 65.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 375
rack travel mm : 6.00

Testing:

Rated speed rpm : 375
rack travel mm : 5.55
Tolerance mm : + 0.15

rack travel mm : 2.00
Rated speed rpm : 465
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 1.10
Rated speed rpm : 1200
rack travel mm : 11.15
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 12.05
Tolerance mm : + 0.05

Rated speed rpm : 1030
rack travel mm : 10.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 12.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.55
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 280
rack travel mm : 11.25
Tolerance mm : \pm 0.15

Pressure hPa : 350
rack travel mm : 11.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.10

E03

Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 375
rack travel mm : 6.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
Test oil : ISO 4113
Combination No. : 0 400 846 615
Injection pump
Pump designation : PES6A95D320LS2853
EP type number : 0 410 896 891
Governor
Governor design. : RQV350...1300AB1281R
Governor no. : 0 420 213 131

Cust. part No. : 1822370C91

Customer-spec. information
Customer : NAVISTAR
Motor : DTA 408
Power KW : 145.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 058
Inlet press. bar : 2.8
Test nozzle holde
assembly : 1 688 901 110
Opening pressure
bar : 251.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 2.50
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 13.25
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 97.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 900
Del. quantity
cm3/1000 strokes : 97.5
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : + 6.0

RATED SPEED

rack travel mm : 12.20
Rated speed rpm : 1380
Tolerance 1/min : + 15

rack travel mm : 4.00
Rated speed rpm : 1525
Tolerance 1/min : + 5

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1625

LOW IDLE

control lever
position degree : 70.0
tolerance degree : + 6.0

Testing:

EOS

Rated speed rpm : 350
rack travel mm : 5.70
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 9.00

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.25
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1300
Pressure hPa : 900
rack travel mm : 13.25
Tolerance mm : + 0.05

MEASUREMENT

Rated speed rpm : 1300

Pressure hPa : 500
rack travel mm : 12.30
Tolerance mm : + 0.20

Pressure hPa : 275
rack travel mm : 10.25
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 270

Check
speed 1/min : > 80
Check
speed 1/min : < 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 62.5

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 1380
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 866 178

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV550...1100AOC2190
: -56R
Governor no. : 0 420 233 295

Cust. part No. : 3923480

Customer-spec. information
Customer : CDC
Motor : 6CTA-830
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 124.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 99.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

rack travel mm : 0.85

Tolerance mm : \pm 0.55
Rated speed rpm : 1425

rack travel mm : 4.00
Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 79.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 550
rack travel mm : 4.70

Testing:

Rated speed rpm : 550
rack travel mm : 5.70
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : \pm 0.05

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 10.0

Check tolerance
cm³/1000s. : + 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113

Combination No. : 0 400 856 179

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV550...1100A0C2238
: -2R
Governor no. : 0 420 233 296

Cust. part No. : 3923479

Customer-spec. information
Customer : CDC
Motor : 6CTA-830
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 124.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : \pm 0.20
governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 1170
Tolerance 1/min : \pm 5
rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : \pm 5
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1400

rack travel mm : 4.00
Rated speed rpm : 1240

LOW IDLE

control lever
position degree : 79.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 550
rack travel mm : 5.20

Testing:

Rated speed rpm : 550
rack travel mm : 5.70
Tolerance mm : \pm 0.10

Rated speed rpm : 100
CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 900
rack travel mm : 12.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.90
Tolerance mm : \pm 0.10
Rated speed rpm : 1100
Pressure hPa : 465
rack travel mm : 12.20
Tolerance mm : \pm 0.20

Pressure hPa : 340
rack travel mm : 11.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.5

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1170
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 866 181

Injection pump
Pump designation : PES6A100D320/3RS2691
: -4
EP type number : 9 410 230 030

Governor
Governor design. : RSV450...1100A0C2190
: -59R
Governor no. : 0 420 233 298

Cust. part No. : 3922145

Customer-spec. information

Customer : CDC
Motor : 6CT830
Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

E13

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 114.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 114.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 1165
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1265

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 6.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 5.30

Testing:

Rated speed rpm : 450
rack travel mm : 5.80
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.95
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.80
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 126.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1165
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 866 183

Injection pump
Pump designation : PES6A100D320/3RS2763
EP type number : 0 410 806 006

Governor
Governor design. : RSV400...1100AOC2190
: -61R
Governor no. : 0 420 233 300

Cust. part No. : 3921100

Customer-spec. information

Customer : CDC
Motor : 6CT 8.3
Power KW : 111.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 89.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 89.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 110.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.70
Rated speed rpm : 1150
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : ± 5

rack travel mm : 0.85

Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1240

LOW IDLE

control lever
position degree : 89.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.50

Testing:

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 9.75
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 10.80
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 98.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 8.70
Rated speed rpm : 1150
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113
Combination No. : 0 400 856 184
Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV425...900A4C2213
 : -4R
Governor no. : 0 420 233 325

Cust. part No. : 3921160

Customer spec. information
Customer : CDC
Motor : 6 CT 8.3
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 830

Rack travel in mm : 13.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 139.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 830
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 139.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.40
Rated speed rpm : 930
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 975
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1030

rack travel mm : 4.00
Rated speed rpm : 975

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 4.70

Testing:

Rated speed rpm : 425
rack travel mm : 5.60
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 830
rack travel mm : 13.45
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 930
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 866 185

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV500...1250A0C2190
 : -62R
Governor no. : 0 420 233 301

Cust. part No. : 3921096

Customer-spec. information
Customer : CDC
Motor : 6 CTA-I
Power KW : 164.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 114.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 114.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 95.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 1310
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1360
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1450

rack travel mm : 4.00

Rated speed rpm : 1360

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 5.20

Testing:

Rated speed rpm : 500
rack travel mm : 5.70
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.95
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1310
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113

Combination No. : 0 400 866 189

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1100A0C2190
: -65R
Governor no. : 0 420 233 304

Cust. part No. : 3921145

Customer-spec. information
Customer : CDC
Motor : 6 CTA 8.3ltr
Power KW : 174.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 129.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 129.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 95.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : ± 5
rack travel mm : 4.00
Rated speed rpm : 1215
Tolerance 1/min : ± 5
rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1220

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.10

Testing:

Rated speed rpm : 400
rack travel mm : 5.60
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113

Combination No. : 0 400 836 190

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1250A0C2216
: -5R
Governor no. : 0 420 233 327

Cust. part No. : 3921144

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3 ltr
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.75

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 119.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 119.5
Tolerance
cm3/1000 strokes : ± 1.0
Check tolerance
cm3/1000S. : ± 3.0
Spread
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 106.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.00
Rated speed rpm : 1310
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1390
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1450

rack travel mm : 4.00
Rated speed rpm : 1395

LOW IDLE

control lever
position degree : 80.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.00

Testing:

Rated speed rpm : 400
rack travel mm : 5.50
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 12.05
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.60
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 127.0
Tolerance
cm3/1000 strokes : ± 2.0
Check tolerance
cm3/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1310

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 856 191

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1100AOC2190
: -66R
Governor no. : 0 420 233 305

Cust. part No. : 3921159

Customer-spec. information

Customer : CDC
Motor : 6 CTA 8.3 ltr.
Power kW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 2.

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 1.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 119.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 119.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 11.10
Rated speed rpm : 1170
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00

F04

Rated speed rpm : 1240

LOW IDLE

control lever
position degree : 80.0
tolerance degree : ± 6.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.50

Testing:

Rated speed rpm : 400
rack travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.15
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.60
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 141.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1170
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113
Combination No. : 0 400 856 193
Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1100A0C2190
: -68R
Governor no. : 0 420 233 307

Cust. part No. : 3921094

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3
Power kW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 108.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 108.5
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.40
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : \pm 5

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1230

LOW IDLE

control lever
position degree : 81.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.30

Testing:

Rated speed rpm : 400
rack travel mm : 5.80
Tolerance mm : \pm 0.10

Rated speed rpm : 100
CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.45
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 12.70
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 127.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1145

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : +- 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000s. : +- 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113

Combination No. : 0 400 866 194

Injection pump
Pump designation : PES6A100D320/3RS2763
EP type number : 0 410 806 006

Governor
Governor design. : RSV415...1175AOC2190
 : -69R
Governor no. : 0 420 233 308

Cust. part No. : 3921135

Customer-spec. information

Customer : CDC
Motor : 6 CT
Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1175

Rack travel in mm : 10.45
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 99.5

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 99.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 110.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.40
Rated speed rpm : 1245
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1310
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1400

rack travel mm : 4.00
Rated speed rpm : 1315

LOW IDLE

control lever
position degree : 86.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 415
rack travel mm : 4.70

Testing:

Rated speed rpm : 415
rack travel mm : 5.20
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1175
rack travel mm : 10.45
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 10.80
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 103.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.40
Rated speed rpm : 1245

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.03.95
Test oil : ISO 4113

Combination No. : 0 400 856 195

Injection pump
Pump designation : PES6A100D320/3RS2763
EP type number : 0 410 806 006

Governor
Governor design. : RSV375...100DAOC2190
: -70R
Governor no. : 0 420 233 309

Cust. part No. : 3921117

Customer-spec. information
Customer : CDC
Motor : 6 CTA
Power KW : 166.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 134.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 134.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 91.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.90
Rated speed rpm : 1055
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1130
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1200

rack travel mm : 4.00
Rated speed rpm : 1135

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 375
rack travel mm : 4.90

Testing:

Rated speed rpm : 375
rack travel mm : 5.40
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.95
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.70
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1055

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.03.95
Test oil : ISO 4113

Combination No. : 0 400 866 196

Injection pump
Pump designation : PES6A100D320/3RS2763
EP type number : 0 410 806 006

Governor
Governor design. : RSV375...1100AOC2190
: -71R
Governor no. : 0 420 233 310

Cust. part No. : 3921101

Customer-spec. information
Customer : CDC
Motor : 6CT 8.3
Power KW : 134.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 107.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 107.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 105.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.90
Rated speed rpm : 1145
Tolerance 1/min : ± 5
rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1245

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 375
rack travel mm : 5.50

Testing:

Rated speed rpm : 375
rack travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.95
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.00
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 121.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.90
Rated speed rpm : 1145

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.05.95
Test oil : ISO 4113
Combination No. : 0 400 856 198
Injection pump
Pump designation : PES6A100D320/3RS2763
EP type number : 0 410 806 006

Governor
Governor design. : RSV400...950A0C2238
: -4R
Governor no. : 0 420 233 331

Cust. part No. : 3921127

Customer-spec. information

Customer : CDC
Motor : 6CT830
Power KW : 145.2

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 121.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 121.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 91.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.10
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1070
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1150

rack travel mm : 4.00

Rated speed rpm : 1085

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.80

Testing:

Rated speed rpm : 400
rack travel mm : 5.30
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 12.15
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 305
rack travel mm : 11.60
Tolerance mm : ± 0.20

Pressure hPa : 220
rack travel mm : 11.15
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113

Combination No. : 0 400 856 202

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1000AOC2190
: -74R
Governor no. : 0 420 233 313

Cust. part No. : 3921142

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3
Power kW : 151.4

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 124.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20
governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 90.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.10
Rated speed rpm : 1055
Tolerance 1/min : ± 5
rack travel mm : 4.00
Rated speed rpm : 1115
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1175

rack travel mm : 4.00
Rated speed rpm : 1120

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.20

Testing:

Rated speed rpm : 400
rack travel mm : 5.70
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1055
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0

Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113

Combination No. : 0 400 856 204

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1100A0C2190
 : -76R
Governor no. : 0 420 233 315

Cust. part No. : 3921163

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3ltr
Power KW : 173.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 99.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : \pm 0.20
governor spring
pre-tension
click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 99.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 9.70
Rated speed rpm : 1175
Tolerance 1/min : \pm 5
rack travel mm : 4.00
Rated speed rpm : 1240
Tolerance 1/min : \pm 5

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1245

LOW IDLE

control lever
position degree : 79.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 5.20

Testing:

Rated speed rpm : 425
rack travel mm : 5.70
Tolerance mm : \pm 0.10

Rated speed rpm : 100
CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.75
Tolerance mm : \pm 0.05

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 1175
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 145.0

Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 866 205

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1050A0C2190
 : -77R
Governor no. : 0 420 233 316

Cust. part No. : 3921164

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3
Power KW : 154.4

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 126.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Anemoid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 126.5
Tolerance
cm3/1000 strokes : \pm 1.0
Check tolerance
cm3/1000S. : \pm 3.0
Spreed
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 92.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.40
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : \pm 5

rack travel mm : 0.85

Tolerance mm : \pm 0.55
Rated speed rpm : 1275

rack travel mm : 4.00
Rated speed rpm : 1190

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.60

Testing:

Rated speed rpm : 400
rack travel mm : 5.10
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.45
Tolerance mm : \pm 0.05

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm3/1000 strokes : 145.0
Tolerance
cm3/1000 strokes : \pm 10.0

Check tolerance
cm3/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113
Combination No. : 0 400 856 206
Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1250A0C2190
: -78R
Governor no. : 0 420 233 317

Cust. part No. : 3921107

Customer-spec. information
Customer : CDC
Motor : 6 CTA 8.3
Power KW : 131.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.75

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 100.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 3.0

Spread
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : + 0.20
governor spring
pre-tension
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 100.5
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0
Spread
Tolerance
cm3/1000 strokes : 4.0
Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 105.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.80
Rated speed rpm : 1330
Tolerance 1/min : + 5
rack travel mm : 4.00
Rated speed rpm : 1405
Tolerance 1/min : + 5

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

rack travel mm : 4.00
Rated speed rpm : 1415

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.80

Testing:

Rated speed rpm : 400
rack travel mm : 5.30
Tolerance mm : + 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 10.85
Tolerance mm : + 0.05

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1330
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95

Test oil : ISO 4113

Combination No. : 0 400 866 208

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A0C2190

: -80R

Governer no. : 0 420 233 319

Cust. part No. : 3921140

Customer-spec. information

Customer : CDC

Motor : 6 CT 8.3

Power KW : 156.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde assembly

: 1 688 901 101

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : ± 1.0

Prestroke mm : 2.85

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 125.5

Tolerance

cm³/1000 strokes : ± 1.0

Check tolerance

cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 125.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 94.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.30
Rated speed rpm : 1170
Tolerance 1/min : ± 5
rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : ± 5
rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1230

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 5.20

Testing:

Rated speed rpm : 425
rack travel mm : 5.70
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.35
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1170
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113

Combination No. : 0 400 866 209

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...1050A0C2190
: -81R
Governor no. : 0 420 233 320

Cust. part No. : 3921089

Customer-spec. information
Customer : CDC
Motor : 6 C 8.3
Power kW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 9.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 80.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 80.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 95.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.60
Rated speed rpm : 1100
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1200

rack travel mm : 4.00
Rated speed rpm : 1140

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.20

Testing:

Rated speed rpm : 400
rack travel mm : 5.70
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 9.65
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 10.50
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 88.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 8.60
Rated speed rpm : 1100

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.06.95
Test oil : ISO 4113

Combination No. : 0 400 856 212

Injection pump
Pump designation : PES6A100D320/3RS2691
: -4
EP type number : 9 410 230 030

Governor
Governor design. : RSV450...1100ADC2190
: -82R
Governor no. : 0 420 233 321

Cust. part No. : 3921092

Customer-spec. information
Customer : CDC
Motor : 6CT830
Power KW : 117.1

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 96.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 16.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 96.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 9.60
Rated speed rpm : 1160
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1325

rack travel mm : 4.00
Rated speed rpm : 1245

LOW IDLE

control lever
position degree : 84.0
tolerance degree : ± 6.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 5.10

Testing:

Rated speed rpm : 450
rack travel mm : 5.60
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.65
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.10
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 94.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1160
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000s. : ± 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 16.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 856 213

Injection pump
Pump designation : PES6A100D320/3RS2691
: -4
EP type number : 9 410 230 030

Governor
Governor design. : RSV450...1100A0C2190
: -83R
Governor no. : 0 420 233 322

Cust. part No. : 3921093

Customer-spec. information
Customer : CDC
Motor : 6CT830
Power KW : 150.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 121.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20
governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 108.0
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 11.10
Rated speed rpm : 1160
Tolerance 1/min : ± 5
rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 6.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 4.90

Testing:

Rated speed rpm : 450
rack travel mm : 5.40
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.15
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.20
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1160
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.95
Test oil : ISO 4113
Combination No. : 0 400 856 214
Injection pump
Pump designation : PES6A100D320/3RS2691
: -4
EP type number : 9 410 230 030
Governor
Governor design. : RSV450...110DAOC2190
: -84R
Governor no. : 0 420 233 323
Cust. part No. : 3921095

Customer-spec. information

Customer : CDC
Motor : 6CT830
Power KW : 134.2

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 11.25
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 104.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 104.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.20
Rated speed rpm : 1145
Tolerance 1/min : ± 5
rack travel mm : 4.00
Rated speed rpm : 1225
Tolerance 1/min : ± 5
rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1230

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 5.30

Testing:

Rated speed rpm : 450
rack travel mm : 5.80
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.25
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.10
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 113.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 1145

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.95
Test oil : ISO 4113

Combination No. : 0 400 856 217

Injection pump
Pump designation : PES6A100D320/3RS2691
: -4
EP type number : 9 410 230 030

Governor
Governor design. : RSV500...1100A0C2241
: -2R
Governor no. : 0 420 233 336

Cust. part No. : 3926083

Customer-spec. information

Customer : CDC
Motor : 6CT830
Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

G20

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 114.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000s. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 114.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 6.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 1165
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1265

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 5.70

Testing:

Rated speed rpm : 500
rack travel mm : 5.20
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.95
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.80
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.80
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.90
Tolerance mm : ± 0.10

Rated speed rpm : 500
Pressure hPa : 425

rack travel mm : 12.10
Tolerance mm : \pm 0.20

Pressure hPa : 305
rack travel mm : 11.15
Tolerance mm : \pm 0.05

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 126.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 81.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1165
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.05.95
Test oil : ISO 4113
Combination No. : 0 400 876 381
Injection pump
Pump designation : PES6A100D410RS2762
: -1
EP type number : 0 410 806 008
Governor
Governor design. : RSV425...1050A0C2252
: -1L
Governor no. : 0 420 232 571
Cust. part No. : RE41833

Customer-spec. information
Customer : DEERE
Motor : 6076TRW-30
Power KW : 129.5

TEST BENCH REQUIREMENTS

Inlet line : 2.4
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 11.10
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 106.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 106.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 46.0

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.05
Rated speed rpm : 1100
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1170

LOW IDLE

control lever
position degree : 24.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 5.80

Testing:

Rated speed rpm : 425
rack travel mm : 5.30
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.10
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.95
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.05
Rated speed rpm : 1100
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.08.95
Test oil : ISO 4113

Combination No. : 0 400 876 383

Injection pump
Pump designation : PES6A100D410RS2762
: -1
EP type number : 0 410 806 008

Governor
Governor design. : RSV400...1100A2C2204
: -8L
Governor no. : 0 420 232 551

Cust. part No. : RE47356

Customer-spec. information
Customer : DEERE
Motor : 6076TDW02
Power KW : 128.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 195
Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Beginning of delivery difference

and maximum rack
travel : 10.50
Difference ° CS : 7.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 101.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 31.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 101.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 94.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.70
Rated speed rpm : 1155
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.50

Testing:

Rated speed rpm : 400
rack travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.75
Tolerance mm : ± 0.05

Rated speed rpm : 650

rack travel mm : 12.70
Tolerance mm : \pm 0.10

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 1155
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
Test oil : ISO 4113

Combination No. : 0 400 876 394

Injection pump
Pump designation : PES6A100D410RS2754
EP type number : 0 410 806 002

Governor
Governor design. : RSV425...1100A0C2234
: -2L
Governor no. : 0 420 232 569

Cust. part No. : RE51026

Customer-spec. information
Customer : DEERE
Motor : 6076TRW04
Power KW : 122.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 7.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 101.5

Tolerance
cm3/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 3.0

Speed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

Del. quantity
cm3/1000 strokes : 28.0

Tolerance
cm3/1000 strokes : + 2.0

Check tolerance
cm3/1000S. : + 4.0

Speed
Tolerance
cm3/1000 strokes : 6.0

Check tolerance
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : -

Del. quantity
cm3/1000 strokes : 101.5

Tolerance
cm3/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 3.0

Speed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

H02

control lever
position degree : 95.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.60
Rated speed rpm : 1150
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1205
Tolerance 1/min : + 5

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1205

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 5.10

Testing:

Rated speed rpm : 425
rack travel mm : 5.60
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.65
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 12.00
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -

Rated speed rpm : 700

Del. quantity

cm³/1000 strokes : 126.5

Tolerance

cm³/1000 strokes : \pm 1.5

Check tolerance

cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.60

Rated speed rpm : 1150

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm³/1000 strokes : 110.0

Tolerance

cm³/1000 strokes : \pm 10.0

Check tolerance

cm³/1000S. : \pm 15.0

LOW IDLE

Del. quantity

cm³/1000 strokes : 28.0

Tolerance

cm³/1000 strokes : \pm 2.0

Check tolerance

cm³/1000S. : \pm 4.0

Speed

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.08.95
Test oil : ISO 4113
Combination No. : 0 400 876 399
Injection pump
Pump designation : PES6A100D410RS2754
EP type number : 0 410 806 002
Governor
Governor design. : RSV425...110DA0C2234
 : -3L
Governor no. : 0 420 232 577
Cust. part No. : RE51910

Customer-spec. information
Customer : DEERE
Motor : 6076TRW01
Power KW : 106.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2!!!!
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

H04

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery blocking
°NW after s.o.d. : 13.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1
Beginning of delivery differende
and maximum rack
travel : 10.50
Difference ° CS : 7.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.75
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 90.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 28.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : + 1.0

H05

Check tolerance
cm³/1000S. : + 3.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 98.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.70
Rated speed rpm : 1150
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1205
Tolerance 1/min : + 5

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1215

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 5.30

Testing:

Rated speed rpm : 425
rack travel mm : 5.80
Tolerance mm : + 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 9.75
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 10.80
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 112.5
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 8.70
Rated speed rpm : 1150
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 28.0
Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.08.95
Test oil : ISO 4113
Combination No. : 0 400 876 411
Injection pump
Pump designation : PES6A100D410RS2762
: -1
EP type number : 0 410 806 008
Governor
Governor design. : RSV425...1100A0C2252
: -2L
Governor no. : 0 420 232 591
Cust. part No. : RE55529

Customer-spec. information
Customer : DEERE
Motor : 6076ADW-30
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008

H07

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 105.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

Del. quantity
cm3/1000 strokes : 36.0

Tolerance
cm3/1000 strokes : ± 2.0

Check tolerance
cm3/1000S. : ± 4.0

Spread
Tolerance
cm3/1000 strokes : 6.0

Check tolerance
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : -

Del. quantity
cm3/1000 strokes : 105.5

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 3.0

Spread
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 49.0
tolerance degree : ± 4.0

H08

RATED SPEED

rack travel mm : 10.10
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1210
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 23.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 5.80

Testing:

Rated speed rpm : 425
rack travel mm : 6.30
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.15
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 13.60
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 36.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.08.95
Test oil : ISO 4113

Combination No. : 0 400 876 416

Injection pump
Pump designation : PES6A100D410RS2762
: -1
EP type number : 0 410 806 008

Governor
Governor design. : RSV400...1100A2C2229
: -1L
Governor no. : 0 420 232 594

Cust. part No. : RE48640

Customer-spec. information
Customer : DEERE
Motor : 6076 TF 030
Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 11.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 13.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende
and maximum rack
travel : 11.50
Tolerance mm : ± 1.50
Difference ° CS : 7.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.05
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 121.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 121.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spreed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 97.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.00
Rated speed rpm : 1150
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1210
Tolerance 1/min : \pm 5

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.80

Testing:

Rated speed rpm : 400
rack travel mm : 5.30
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 580
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.05
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 14.00
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 152.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1150
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.08.95
Test oil : ISO 4113

Combination No. : 0 400 876 424

Injection pump
Pump designation : PES6A100D410RS2762
: -1
EP type number : 0 410 806 008

Governor
Governor design. : RSV425...1050A2C2277
: L
Governor no. : 0 420 232 601

Cust. part No. : RE62035

Customer-spec. information
Customer : DEERE
Motor : 6076TRW-30
Power KW : 129.5

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 106.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 106.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 94.0

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.15
Rated speed rpm : 1100
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1170

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 425
rack travel mm : 5.20

Testing:

Rated speed rpm : 425
rack travel mm : 5.70
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.20
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.85
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.15
Rated speed rpm : 1100
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 15.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.04.95
Test oil : ISO 4113

Combination No. : 0 402 736 807

Injection pump
Pump designation : PES6P110A120RS7214
EP type number : 0 412 716 805

Governor
Governor design. : RQV350...1100PA964
: -1K
Governor no. : 0 421 815 253

Cust. part No. : 3921771

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power kW : 201.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 210.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.90
Tolerance mm : ± 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 8.20
Tolerance mm : ± 0.10

Rated speed rpm : 450
guide sleeve
travel mm : 3.30
Tolerance mm : ± 0.20

Rated speed rpm : 600
guide sleeve
travel mm : 5.30
Tolerance mm : ± 0.20

Rated speed rpm : 1200
guide sleeve
travel mm : 9.80
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 120.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 14.50
Rated speed rpm : 1150
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1315
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 67.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.80
Tolerance mm : ± 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 15.85
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 13.40
Tolerance mm : ± 0.20

Rated speed rpm : 1100
rack travel mm : 15.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 1500
rack travel mm : 15.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1050
rack travel mm : 8.30
Tolerance mm : \pm 0.20

Rated speed rpm : 1050

Pressure hPa : 845
rack travel mm : 13.80
Tolerance mm : \pm 0.20

Pressure hPa : 335
rack travel mm : 10.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 290

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 193.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.50
Rated speed rpm : 1150
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.04.95

Test oil : ISO 4113

Combination No. : 0 402 736 813

Injection pump

Pump designation : PES6P110A12ORS7214

EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1100PA964

: -5K

Governer no. : 0 421 815 257

Cust. part No. : 3921772

Customer-spec. information

Customer : CDC

Motor : 6CTA-A

Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40

Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde
assembly

: 1 688 901 101

Opening pressure

bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : + 1.0

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.55

Tolerance mm : + 0.05

Del. quantity

cm³/1000 strokes : 187.5

Tolerance

cm³/1000 strokes : + 1.0

Check tolerance

cm³/1000 : + 4.0

Spread

Tolerance

cm³/1000 strokes : 5.0

Check tolerance

cm³/1000S. : 9.0

Del. quantity

cm³/1000 strokes : 30.0

Tolerance

cm³/1000 strokes : + 3.0

Check tolerance
cm3/1000S. : + 5.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.90
Tolerance mm : + 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 8.20
Tolerance mm : + 0.10

Rated speed rpm : 450
guide sleeve
travel mm : 3.30
Tolerance mm : + 0.20

Rated speed rpm : 600
guide sleeve
travel mm : 5.30
Tolerance mm : + 0.20

Rated speed rpm : 1200
guide sleeve
travel mm : 9.80
Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1500
Del. quantity
cm3/1000 strokes : 187.5
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.50
Rated speed rpm : 1150
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1305
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 67.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.80
Tolerance mm : + 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.55
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 13.60
Tolerance mm : + 0.10

Rated speed rpm : 500
rack travel mm : 13.10
Tolerance mm : + 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1500
rack travel mm : 14.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.30
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 845
rack travel mm : 13.80
Tolerance mm : \pm 0.20

Pressure hPa : 335
rack travel mm : 10.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 290

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 201.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1150
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.30
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.04.95
Test oil : ISO 4113

Combination No. : 0 402 736 815

Injection pump
Pump designation : PES6P110A120RS7214
EP type number : 0 412 716 805

Governor
Governor design. : RQV350...1000PA964
: -7K
Governor no. : 0 421 815 259

Cust. part No. : 3921773

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 194.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 15.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 218.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.70
Tolerance mm : + 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 8.50
Tolerance mm : + 0.10

Rated speed rpm : 450
guide sleeve
travel mm : 3.20
Tolerance mm : + 0.20

Rated speed rpm : 600
guide sleeve
travel mm : 5.40
Tolerance mm : + 0.20

Rated speed rpm : 1150
guide sleeve
travel mm : 10.00
Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 218.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.30
Rated speed rpm : 1055
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 67.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.70
Tolerance mm : + 0.10

Rated speed rpm : 275
CRT mm min. : > 7.20

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 15.85
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 14.20
Tolerance mm : + 0.20

Rated speed rpm : 1000
rack travel mm : 15.40
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1500
rack travel mm : 15.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 8.30
Tolerance mm : \pm 0.20

Rated speed rpm : 900

Pressure hPa : 845
rack travel mm : 13.80
Tolerance mm : \pm 0.20

Pressure hPa : 335
rack travel mm : 10.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 290

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.30
Rated speed rpm : 1055
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.40
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.09.95
Test oil : ISO 4113
Combination No. : 0 400 195 003
Injection pump
Pump designation : PES5M55C320RS202
EP type number : 0 410 055 971
Governor
Governor design. : RE22
Governor no. : 0 420 090 003

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM 605
Power KW : 83.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

H25

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 17.00
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1000
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 35.5
Tolerance
cm³/1000 strokes : +/- 0.5
Check tolerance
cm³/1000s. : +/- 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000s. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 4.000
Del. quantity
cm³/1000 strokes : 52.0
Check tolerance
cm³/1000s. : +/- 2.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.09.95
Test oil : ISO 4113
Combination No. : 0 400 195 004
Injection pump
Pump designation : PES5M60C320RS205
EP type number : 0 410 065 001
Governor
Governor design. : RE22
Governor no. : 0 420 090 003

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM 605 D 25 LA
Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 0 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

H27

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Prestroke mm : 1.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 17.00
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Check value

(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1000
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 58.0
Tolerance
cm³/1000 strokes : +/- 0.5
Check tolerance
cm³/1000S. : +/- 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 2200
Uact V : 3.250

Rated speed rpm : 500
Uact V : 3.250

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 52.0
Check tolerance
cm³/1000S. : +/- 2.5
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 8.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.09.95
Test oil : ISO 4113
Combination No. : 0 400 196 004
Injection pump
Pump designation : PES6M55C320RS204
EP type number : 0 410 056 969
Governor
Governor design. : RE22
Governor no. : 0 420 090 003

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM 606
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 0 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Prestroke mm : 1.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 17.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1000
Uact V : 3.250
Del. quantity
cm3/1000 strokes : 35.5
Tolerance
cm3/1000 strokes : +/- 0.5
Check tolerance
cm3/1000S. : +/- 2.0
Spreed
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 3.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 2500
Uact V : 3.250

Rated speed rpm : 500
Uact V : 3.250

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 4.000
Check tolerance
cm3/1000S. : +/- 2.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 401 846 968

Injection pump
Pump designation : PE6P110A320RS3197
EP type number : 0 411 816 752

Governor
Governor design. : RQV300...1100PA589
 : -4
Governor no. : 0 421 814 022

Cust. part No. : 11031149
 : -P02 v100593

Customer-spec. information
Customer : VME
Motor : TD102 KF
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.95
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 170.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 4.40
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 27.0

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.76
Tolerance mm : + 0.25

Rated speed rpm : 1176
guide sleeve
travel mm : 8.34
Tolerance mm : + 0.25

Rated speed rpm : 1087
guide sleeve
travel mm : 6.96
Tolerance mm : + 0.25

Rated speed rpm : 387
guide sleeve
travel mm : 2.96
Tolerance mm : + 0.25

Rated speed rpm : 437
guide sleeve
travel mm : 3.71
Tolerance mm : + 0.25

Rated speed rpm : 520

guide sleeve
travel mm : 4.67
Tolerance mm : + 0.25

Rated speed rpm : 1370
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1180

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 170.0
Tolerance

cm³/1000 strokes : + 1.0
Check tolerance

cm³/1000S. : + 3.0
Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 63.0
tolerance degree : + 4.0

control lever
position degree : 120.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 1165
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1240
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 64.0
tolerance degree : \pm 4.0

control lever
position degree : 9.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : \pm 0.10

Rated speed rpm : 100
CRT mm min. : $>$ 5.90
Rated speed rpm : 315

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.95
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.95
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa : 440
rack travel mm : 1.60
Tolerance mm : \pm 0.10

Pressure hPa : 200
rack travel mm : 0.25

J05

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 128.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1165
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 27.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 646 656

Injection pump
Pump designation : PE6P120A72ORS7264-1
EP type number : 0 412 626 942

Governor
Governor design. : RQ750PA758-14
Governor no. : 0 421 801 659

Cust. part No. : 1370985

Customer-spec. information
Customer : SCANIA
Motor : D 11

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 15.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 310.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rack travel in mm : 5.60
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 709
guide sleeve
travel mm : 5.50
Tolerance mm : + 0.25

Rated speed rpm : 520
guide sleeve
travel mm : -3.50
Tolerance mm : + 0.25

Rated speed rpm : 820
guide sleeve
travel mm : 16.20
Tolerance mm : + 0.25

Rated speed rpm : 764
guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 820
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 310.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 32.0
tolerance degree : + 4.0

control lever
position degree : 94.0
tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 14.90

Rated speed rpm : 795
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 14.90

Rated speed rpm : 796
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 14.90

Rated speed rpm : 797

Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 850
Rated speed rpm	: 753
rack travel mm	: 14.90
Rated speed rpm	: 798
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 850
Rated speed rpm	: 754
rack travel mm	: 14.90
Rated speed rpm	: 799
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 850
Rated speed rpm	: 755
rack travel mm	: 14.90
Rated speed rpm	: 800
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 850

TORQUE CONTROL

Rated speed rpm	: 700
rack travel mm	: 15.95
Tolerance mm	: +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	: 500
Pressure hPa	: 1500
rack travel mm	: 15.95
Tolerance mm	: +- 0.05

MEASUREMENT

Pressure hPa	: -
Rated speed rpm	: 500
rack travel mm	: 12.60
Tolerance mm	: +- 0.20

Rated speed rpm	: 500
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Pressure hPa	: 420
rack travel mm	: 13.60
Tolerance mm	: +- 0.20

Pressure hPa	: 680
rack travel mm	: 15.05
Tolerance mm	: +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	: -
hPa	: -
Rated speed rpm	: 500
Del. quantity	: -
cm3/1000 strokes	: 224.0
Tolerance	: -
cm3/1000 strokes	: +- 1.0
Check tolerance	: -
cm3/1000S.	: +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm	: 100
rack travel mm	: 12.50
Tolerance mm	: +- 0.20
Del. quantity	: -
cm3/1000 strokes	: 120.0
Tolerance	: -
cm3/1000 strokes	: +- 20.0
Check tolerance	: -
cm3/1000S.	: +- 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 646 661

Injection pump
Pump designation : PE6P120A720RS7264-1
EP type number : 0 412 626 942

Governor
Governor design. : RQ900PA758-16
Governor no. : 0 421 801 685

Cust. part No. : 1370986

Customer-spec. information
Customer : SCANIA
Motor : DSC1155A

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

J10

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 15.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 310.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spreed
Tolerance
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000S. : 12.0

Rack travel in mm : 5.60
Tolerance mm : \pm 0.10
Del. quantity
cm3/1000 strokes : 20.0
Tolerance
cm3/1000 strokes : \pm 4.0
Check tolerance
cm3/1000S. : \pm 6.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 907
guide sleeve
travel mm : 3.98
Tolerance mm : \pm 0.15

Rated speed rpm : 630
guide sleeve
travel mm : -6.82
Tolerance mm : \pm 0.25

Rated speed rpm : 1050
guide sleeve
travel mm : 17.28
Tolerance mm : \pm 0.25

Rated speed rpm : 985
guide sleeve
travel mm : 10.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1050
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm3/1000 strokes : 310.0
Tolerance
cm3/1000 strokes : \pm 1.0
Check tolerance
cm3/1000S. : \pm 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 28.0
tolerance degree : \pm 4.0

control lever
position degree : 89.0
tolerance degree : \pm 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 900
rack travel mm : 14.90

Rated speed rpm : 961
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1000

Rated speed rpm : 901
rack travel mm : 14.90

Rated speed rpm : 962
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1000

Rated speed rpm : 902
rack travel mm : 14.90

Rated speed rpm : 963

Tolerance 1/min	: + 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1000
Rated speed rpm	: 903
rack travel mm	: 14.90
Rated speed rpm	: 964
Tolerance 1/min	: + 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1000
Rated speed rpm	: 904
rack travel mm	: 14.90
Rated speed rpm	: 965
Tolerance 1/min	: + 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1000
Rated speed rpm	: 905
rack travel mm	: 14.90
Rated speed rpm	: 966
Tolerance 1/min	: + 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1000

TORQUE CONTROL

Rated speed rpm	: 700
rack travel mm	: 15.95
Tolerance mm	: + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	: 500
Pressure hPa	: 1500
rack travel mm	: 15.95
Tolerance mm	: + 0.05

MEASUREMENT

Pressure hPa	: -
Rated speed rpm	: 500
rack travel mm	: 12.60
Tolerance mm	: + 0.20

Rated speed rpm	: 500
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Pressure hPa	: 420
rack travel mm	: 13.60
Tolerance mm	: + 0.20

Pressure hPa	: 680
rack travel mm	: 15.05
Tolerance mm	: + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	: -
hPa	: -
Rated speed rpm	: 500
Del. quantity	: -
cm ³ /1000 strokes	: 224.0
Tolerance	: -
cm ³ /1000 strokes	: + 1.0
Check tolerance	: -
cm ³ /1000S.	: + 4.0

STARTING FUEL DELIVERY

Rated speed rpm	: 100
rack travel mm	: 12.50
Tolerance mm	: + 0.20
Del. quantity	: -
cm ³ /1000 strokes	: 120.0
Tolerance	: -
cm ³ /1000 strokes	: + 20.0
Check tolerance	: -
cm ³ /1000S.	: + 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.06.95
Test oil : ISO 4113

Combination No. : 0 402 646 663

Injection pump
Pump designation : PE6P120A720RS7264-1
EP type number : 0 412 626 942

Governor
Governor design. : RQ750PA1226
Governor no. : 0 421 801 787

Cust. part No. : 1376943

Customer-spec. information
Customer : SCANIA
Motor : DSC1155A

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 190
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 15.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 310.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

Rack travel in mm : 5.60
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000s. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 310.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

CONTROL LEVER

control lever
position degree : 29.0
tolerance degree : + 4.0

control lever
position degree : 92.0
tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 14.90

Rated speed rpm : 783
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 14.90

Rated speed rpm : 784
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 14.90

Rated speed rpm : 785
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 753
rack travel mm : 14.90

Rated speed rpm : 786
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 754
rack travel mm : 14.90

Rated speed rpm : 787
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 850

Rated speed rpm : 755
rack travel mm : 14.90

Rated speed rpm : 788
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 850

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 15.95
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 15.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.60
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 420
rack travel mm : 13.60
Tolerance mm : \pm 0.20

Pressure hPa : 680
rack travel mm : 15.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113

Combination No. : 0 402 648 989

Injection pump
Pump designation : PE8P120A720LS7266-2
EP type number : 0 412 628 901

Governor
Governor design. : RQ750PA758-15
Governor no. : 0 421 801 660

Cust. part No. : 1371441

Customer-spec. information
Customer : SCANIA
Motor : DS 14

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration
damper
(RoBo diaphragm) : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
 : - 5- 6- 8

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 16.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 315.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rack travel in mm : 5.60
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 4.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 759
guide sleeve
travel mm : 6.36
Tolerance mm : + 0.25

Rated speed rpm : 520
guide sleeve
travel mm : -5.69
Tolerance mm : + 0.25

Rated speed rpm : 850
guide sleeve
travel mm : 16.58
Tolerance mm : + 0.25

Rated speed rpm : 798
guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 860
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 315.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 32.0
tolerance degree : + 4.0

control lever
position degree : 94.0
tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 15.10

Rated speed rpm : 797
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 15.10

Rated speed rpm : 798
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 15.10

Rated speed rpm : 799
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 753
rack travel mm : 15.10

Rated speed rpm : 800
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 754
rack travel mm : 15.10

Rated speed rpm : 801
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 755
rack travel mm : 15.10

Rated speed rpm : 802
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 16.15
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 16.15
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

rack travel mm : 12.50
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 420
rack travel mm : 13.60
Tolerance mm : + 0.20

Pressure hPa : 680
rack travel mm : 15.05
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 221.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 676 825

Injection pump
Pump designation : PE6P120A320RS7395
EP type number : 0 412 626 949

Governor
Governor design. : RSV300...850P1A614
Governor no. : 0 421 833 502

Cust. part No. : 11031231 P02 v030895

Customer-spec. information
Customer : VME
Motor : TD 103 KAE
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 210
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 258.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.50
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 36.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 258.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed

Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 82.0
tolerance degree : + 4.0

control lever
position degree : 107.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.70
Rated speed rpm : 895
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 970
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 57.0
tolerance degree : + 4.0

control lever
position degree : 32.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 4.00

Testing:

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 425
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.70
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.70
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.80
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 480
rack travel mm : 1.60
Tolerance mm : \pm 0.20

Pressure hPa : 240
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 202.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 895
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 36.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113

Combination No. : 0 402 698 804

Injection pump
Pump designation : PE8P120A720LS7205
: -10
EP type number : 0 412 628 895

Governor
Governor design. : RE30
Governor no. : 0 421 890 007

Cust. part No. : 1328039

Customer-spec. information
Customer : SCANIA
Motor : DSC1409, DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05

Tolerance mm : ± 0.05

Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10

Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.2

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
 $n=600 \text{ min}^{-1}$, $U_{act} = 2.5 \text{ V}$

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min^{-1} : 0

Setting point
(P, R and H pump)

$U_{act} \text{ V}$: 3.100
CRT mm : 13.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Check value
(P, R and H pump)

$U_{act} \text{ V}$: 1.700
CRT mm : 6.15
Tolerance mm : ± 0.25
Check
tolerance mm : ± 0.30

Setting point
(M pump)

$U_{act} \text{ V}$: 3.100
CRT mm : 12.50
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Check value
(M pump)

$U_{act} \text{ V}$: 1.700
CRT mm : 5.50
Tolerance mm : ± 0.25
Check
tolerance mm : ± 0.30

Stop position

$U_{act} \text{ V}$: Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : ± 0.25
Check
tolerance mm : ± 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min^{-1} : 60
Amplitude V : 1.4
Tolerance V : ± 0.6
Check
tolerance V : ± 1.20

Engine speed min^{-1} : 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
 $U_{act} \text{ V}$: 3.000
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
 $U_{act} \text{ V}$: 3.000
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113

Combination No. : 0 402 698 805

Injection pump
Pump designation : PE8P120A720LS7205
: -10

EP type number : 0 412 628 895

Governor
Governor design. : RE30
Governor no. : 0 421 890 019

Cust. part No. : 1361306

Customer-spec. information
Customer : SCANIA
Motor : DSC1409,DSC1416

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10

Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.2

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min⁻¹: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min⁻¹: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 065

Injection pump
Pump designation : PE6P110A320RS8009-1
EP type number : 0 412 816 011

Governor
Governor design. : RQV300...1050PA1183
Governor no. : 0 421 814 111

Cust. part No. : 11030876
: -P04 V.02/95

Customer-spec. information
Customer : VME
Motor : TD 73 KDE
Power kW : 149.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 178.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.50
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : + 2.5

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.19
Tolerance mm : + 0.25

Rated speed rpm : 1107
guide sleeve
travel mm : 7.85
Tolerance mm : + 0.25

Rated speed rpm : 804
guide sleeve
travel mm : 5.19
Tolerance mm : + 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 1.98
Tolerance mm : + 0.25

Rated speed rpm : 435
guide sleeve
travel mm : 2.45
Tolerance mm : + 0.25

Rated speed rpm : 530

guide sleeve
travel mm : 3.11
Tolerance mm : + 0.25

Rated speed rpm : 1400
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1220
Rack travel in mm : 11.00
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 45.0
tolerance degree : + 4.0

control lever
position degree : 112.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.90
Rated speed rpm : 1120
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 78.0
tolerance degree : \pm 4.0

control lever
position degree : 14.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.30

Rated speed rpm : 200
CRT mm min. : $>$ 6.00
Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.90
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.00
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 720
rack travel mm : 2.60
Tolerance mm : \pm 0.20

Pressure hPa : 280
rack travel mm : 0.25

K01

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.90
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 846 071

Injection pump
Pump designation : PE6P120A320RS8040
EP type number : 0 412 862 034

Governor
Governor design. : RQV300...1100PA1248
Governor no. : 0 421 814 165

Cust. part No. : 11031229
: -P02v 030895

Customer-spec. information
Customer : VME
Motor : TD 103 KBE
Power KW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 270.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 330

Rack travel in mm : 4.20
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 29.0
Tolerance

cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 330
guide sleeve
travel mm : 2.10
Tolerance mm : \pm 0.20

Rated speed rpm : 1130
guide sleeve
travel mm : 7.55
Tolerance mm : \pm 0.15

Rated speed rpm : 1077
guide sleeve
travel mm : 6.76
Tolerance mm : \pm 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 4.67
Tolerance mm : \pm 0.25

Rated speed rpm : 1370
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

K03

Rated speed rpm : 1240

Rack travel in mm : 11.00
Tolerance mm : \pm 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 56.0
tolerance degree : \pm 4.0

control lever
position degree : 117.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.00
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1190
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 66.0
tolerance degree : \pm 4.0

control lever
position degree : 11.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 330
rack travel mm : 4.20
Tolerance mm : \pm 0.10

Rated speed rpm : 230
CRT mm min. : $>$ 6.00
Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.00
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.60
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 540
rack travel mm : 2.00
Tolerance mm : \pm 0.20

Pressure hPa : 240
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -

K04

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 202.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1120
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 330
rack travel mm : 4.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 29.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95

Test oil : ISO 4113

Combination No. : 9 400 030 669

Injection pump

Pump designation : PES6A100D320/3RS3503

EP type number : 9 410 037 213

Governor

Governer design. : RQV400...1250AB1301R

Governer no. : 9 420 030 158

Cust. part No. : TATA-CUMMINS

Customer-spec. information

Customer : CUMMINS

Motor : 6BTAA

Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde assembly

: 1 688 901 101

Opening pressure bar

: 207.0

Tolerance bar : ± 3.0

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.10

Tolerance mm : ± 0.05

Check tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.70

Tolerance mm : ± 0.05

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400

guide sleeve travel mm : 1.71

Tolerance mm : ± 0.20

Rated speed rpm : 1347

guide sleeve travel mm : 8.48

Tolerance mm : \pm 0.15

Rated speed rpm : 880
guide sleeve
travel mm : 4.97
Tolerance mm : \pm 0.25

Rated speed rpm : 499
guide sleeve
travel mm : 2.75
Tolerance mm : \pm 0.25

Rated speed rpm : 549
guide sleeve
travel mm : 3.30
Tolerance mm : \pm 0.25

Rated speed rpm : 560
guide sleeve
travel mm : 3.37
Tolerance mm : \pm 0.25

Rated speed rpm : 1620
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450
Rack travel in mm : 16.00
Tolerance mm : \pm 1.30

CONTROL LEVER

control lever
position degree : 61.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.70
Rated speed rpm : 1335
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1455
Tolerance 1/min : \pm 15

rack travel mm : 1.20
Tolerance mm : \pm 0.60
Rated speed rpm : 1515

LOW IDLE

K06

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 6.10
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 675
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 9.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.70
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 11.70
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 11.70
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : 1000
rack travel mm : 11.60
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 800

Pressure hPa : -
rack travel mm : 11.60
Tolerance mm : \pm 0.05

Pressure hPa : 500
rack travel mm : 11.60
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 120
Rated speed rpm : < 300

Check
speed 1/min : > 100
Check
speed 1/min : < 340

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 1335
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.00
Tolerance mm : \pm 0.50

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113
Combination No. : 9 400 030 708
Injection pump
Pump designation : PES6A100D320/3RS3506
EP type number : 9 410 037 236
Governor
Governor design. : RQV400...1250AB1301R
Governor no. : 9 420 030 158

Cust. part No. : TATA-CUMMINS

Customer-spec. information
Customer : CUMMINS
Motor : 6BT - 125 ps

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 207.0
Tolerance bar : ± 3.0

Test lines : 1 680 750 01'

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.60
Tolerance mm : ± 0.05

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
guide sleeve
travel mm : 1.71
Tolerance mm : ± 0.20

Rated speed rpm : 1347
guide sleeve
travel mm : 8.48

Tolerance mm : \pm 0.15

Rated speed rpm : 880
guide sleeve
travel mm : 4.97
Tolerance mm : \pm 0.25

Rated speed rpm : 499
guide sleeve
travel mm : 2.75
Tolerance mm : \pm 0.25

Rated speed rpm : 549
guide sleeve
travel mm : 3.30
Tolerance mm : \pm 0.25

Rated speed rpm : 560
guide sleeve
travel mm : 3.37
Tolerance mm : \pm 0.25

Rated speed rpm : 1620
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450
Rack travel in mm : 16.00
Tolerance mm : \pm 1.30

CONTROL LEVER

control lever
position degree : 61.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 9.60
Rated speed rpm : 1335
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1450
Tolerance 1/min : \pm 15

rack travel mm : 1.20
Tolerance mm : \pm 0.60
Rated speed rpm : 1510

LOW IDLE

K09

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 6.10
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 675
Tolerance 1/min : \pm 30

Rated speed rpm : 100
CRT mm min. : $>$ 9.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 10.60
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 10.60
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 10.60
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : 1000
rack travel mm : 10.60
Tolerance mm : \pm 0.05

MEASUREMENT

Rated speed rpm : 800
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : \pm 0.05

Pressure hPa : 500
rack travel mm : 10.60
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 120
Rated speed rpm : < 300

Check
speed 1/min : > 100
Check
speed 1/min : < 340

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1335
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.40
Tolerance mm : \pm 0.50

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.10.95
Test oil : ISO 4113
Combination No. : 0 402 696 033
Injection pump
Pump designation : PE6H120/320LS4-2
EP type number : 0 412 626 003
Governor
Governor design. : RE36
Governor no. : 0 421 890 359

Cust. part No. : 0250745502

Customer-spec. information
Customer : MB-NFZ
Motor : OM 441 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 5.0

Test nozzle holde assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 7.00
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

Barrel no. : 6

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 750
Uact V : 3.000
Prestroke solenoid
Stroke mm : 7.00
Del. quantity
cm3/1000 strokes : 375.0
Tolerance
cm3/1000 strokes : +/- 1.0
Check tolerance
cm3/1000S. : +/- 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1050
Uact V : 3.000
Prestroke solenoid
Stroke mm : 7.00
Del. quantity
cm3/1000 strokes : 339.0
Tolerance
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0

Rated speed rpm : 550
Uact V : 2.800
Prestroke solenoid
Stroke mm : 8.70
Del. quantity
cm3/1000 strokes : 367.0
Tolerance
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0

TEST POINT L1

Rated speed rpm : 300
Uact V : 1.500
Tolerance Volt : \pm 0.060
Check tolerance
Volt : \pm 0.060
Prestroke solenoid
Stroke mm : 8.00
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 1.900
Prestroke solenoid
Stroke mm : 10.00
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : \pm 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.95
Test oil : ISO 4113
Combination No. : 0 402 698 033
Injection pump
Pump designation : PE8H120/320LS3-2
EP type number : 0 412 628 003
Governor
Governor design. : RE36
Governor no. : 0 421 890 359

Cust. part No. : 0250745602

Customer-spec. information
Customer : MB-NFZ
Motor : OM 442 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 5.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 7.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 8

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 750
Uact V : 2.800
Prestroke solenoid
Stroke mm : 7.40
Del. quantity
cm3/1000 strokes : 341.0
Tolerance
cm3/1000 strokes : +/- 1.0
Check tolerance
cm3/1000S. : +/- 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Uact V : 2.900
Prestroke solenoid
Stroke mm : 8.00
Del. quantity
cm3/1000 strokes : 333.0
Tolerance
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0

Rated speed rpm : 550
Uact V : 2.700
Prestroke solenoid
Stroke mm : 9.50
Del. quantity
cm3/1000 strokes : 351.0
Tolerance
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0

TEST POINT L1

Rated speed rpm : 300
Uact V : 1.500
Tolerance Volt : \pm 0.060
Check tolerance
Volt : \pm 0.060
Prestroke solenoid
Stroke mm : 8.00
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 1.900
Prestroke solenoid
Stroke mm : 10.00
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : \pm 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.10.95
Test oil : ISO 4113
Combination No. : 0 402 796 033
Injection pump
Pump designation : PES6H120/720LS7
EP type number : 0 412 726 004
Governor
Governor design. : RE36
Governor no. : 0 421 890 360

Cust. part No. : 0250745702

Customer-spec. information

Customer : MB-NFZ
Motor : OM 447 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 5.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 7.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 6

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 800
Uact V : 2.650
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm3/1000 strokes : 302.0
Tolerance
cm3/1000 strokes : +/- 1.0
Check tolerance
cm3/1000S. : +/- 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1100
Uact V : 2.750
Prestroke solenoid
Stroke mm : 6.00
Del. quantity
cm3/1000 strokes : 302.0
Tolerance
cm3/1000 strokes : +/- 5.0
Check tolerance
cm3/1000S. : +/- 8.0

Rated speed rpm : 550
Uact V : 2.350
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm3/1000 strokes : 272.0
Tolerance
cm3/1000 strokes : +/- 8.0
Check tolerance
cm3/1000S. : +/- 11.0

TEST POINT L1

Rated speed rpm : 300
Uact V : 1.440
Tolerance Volt : \pm 0.060
Check tolerance
Volt : \pm 0.060
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 1.900
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : \pm 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95
Test oil : ISO 4113
Combination No. : 0 403 244 050
Injection pump
Pump designation : PES4MW100/720RS1525
EP type number : 0 413 204 022
Governor
Governor design. : RQV300...1200MW132
: -14
Governor no. : 0 420 083 331
Cust. part No. : 0260747502

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

K20

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
 cm3/1000S. : 8.0
 Rated speed rpm : 300
 Rack travel in mm : 3.90
 Tolerance mm : \pm 0.20
 Del. quantity
 cm3/1000 strokes : 12.0
 Tolerance
 cm3/1000 strokes : \pm 2.0
 Check tolerance
 cm3/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm3/1000 strokes : 2.0
 Check tolerance
 cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.91
 Tolerance mm : \pm 0.20
 Rated speed rpm : 1254
 guide sleeve
 travel mm : 7.92
 Tolerance mm : \pm 0.15
 Rated speed rpm : 970
 guide sleeve
 travel mm : 5.51
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450
 Rack travel in mm : 10.00
 Tolerance mm : \pm 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1400

Del. quantity
 cm3/1000 strokes : 126.0
 Tolerance
 cm3/1000 strokes : \pm 1.0
 Check tolerance
 cm3/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm3/1000 strokes : 5.0
 Check tolerance
 cm3/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 115.0
 tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.90
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1400
 Tolerance 1/min : \pm 15
 rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1500

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.90
 Tolerance mm : \pm 0.10
 Rated speed rpm : 200
 CRT mm min. : $>$ 4.50

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 13.90
 Tolerance mm : \pm 0.05

Rated speed rpm : 600
 rack travel mm : 13.90
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1400
 rack travel mm : 13.90
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 600
 rack travel mm : 2.00
 Tolerance mm : \pm 0.10

Pressure hPa : 350
 rack travel mm : 0.50
 Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
 Rated speed rpm : $<$ 200

Check
 speed 1/min : $>$ 80
 Check
 speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1400
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 127.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 67.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.90
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 150.0
 Tolerance
 cm³/1000 strokes : \pm 5.0
 Check tolerance
 cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 3.90
 Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95
Test oil : ISO 4113
Combination No. : 0 403 244 051
Injection pump
Pump designation : PES4MW100/720RS1525
EP type number : 0 413 204 022
Governor
Governor design. : RQV300...1200MW132
: -14
Governor no. : 0 420 083 331
Cust. part No. : 0260747402

Customer-spec. information

Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.00
Tolerance mm : + 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.90
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 8.0
 Rated speed rpm : 300
 Rack travel in mm : 3.90
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.91
 Tolerance mm : ± 0.20

Rated speed rpm : 1255
 guide sleeve
 travel mm : 7.93
 Tolerance mm : ± 0.15

Rated speed rpm : 970
 guide sleeve
 travel mm : 5.51
 Tolerance mm : ± 0.25

Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450
 Rack travel in mm : 10.00
 Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1400

Del. quantity
 cm³/1000 strokes : 126.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 115.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.90
 Rated speed rpm : 1245
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1400
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1500

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.90
 Tolerance mm : ± 0.10

Rated speed rpm : 200
 CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 13.90
 Tolerance mm : ± 0.05

Rated speed rpm : 600
 rack travel mm : 13.90
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1400
 rack travel mm : 13.90
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 600
 rack travel mm : 2.00
 Tolerance mm : \pm 0.10

Pressure hPa : 350
 rack travel mm : 0.50
 Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
 Rated speed rpm : $<$ 200

Check
 speed 1/min : $>$ 80
 Check
 speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1400
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 127.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 67.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.90
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 150.0
 Tolerance
 cm³/1000 strokes : \pm 5.0
 Check tolerance
 cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 3.90
 Tolerance mm : \pm 0.20
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.10.95
Test oil : ISO 4113
Combination No. : 0 403 244 052
Injection pump
Pump designation : PES4MW100/720RS1524
EP type number : 0 413 204 021
Governor
Governor design. : RQV300...1200MW132
: -15
Governor no. : 0 420 083 332
Cust. part No. : 0260747602

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 20.00
Tolerance mm : ± 1.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 11.00
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 89.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
 cm3/1000S. : 7.0
 Rated speed rpm : 300
 Rack travel in mm : 4.40
 Tolerance mm : ± 0.20
 Del. quantity
 cm3/1000 strokes : 12.0
 Tolerance
 cm3/1000 strokes : ± 2.0
 Check tolerance
 cm3/1000S. : ± 4.5
 Spreed
 Tolerance
 cm3/1000 strokes : 2.0
 Check tolerance
 cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.91
 Tolerance mm : ± 0.20

Rated speed rpm : 1354
 guide sleeve
 travel mm : 9.00
 Tolerance mm : ± 0.15

Rated speed rpm : 1020
 guide sleeve
 travel mm : 5.87
 Tolerance mm : ± 0.25

Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450
 Rack travel in mm : 10.00
 Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 700

L01

Del. quantity
 cm3/1000 strokes : 89.0
 Tolerance
 cm3/1000 strokes : ± 1.0
 Check tolerance
 cm3/1000S. : ± 3.0
 Spreed
 Tolerance
 cm3/1000 strokes : 4.5
 Check tolerance
 cm3/1000S. : 7.0

CONTROL LEVER

control lever
 position degree : 115.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.00
 Rated speed rpm : 1245
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1360
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.40
 Tolerance mm : ± 0.10

Rated speed rpm : 200
 CRT mm min. : > 5.00

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 11.00
 Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 0.90
Tolerance mm : \pm 0.10

Pressure hPa : 150
rack travel mm : 0.30
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 200

Check
speed 1/min : > 80
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 82.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.10.95
Test oil : ISO 4113
Combination No. : 0 403 244 053
Injection pump
Pump designation : PES4MW100/720RS1524
EP type number : 0 413 204 021
Governor
Governor design. : RQV300...1200MW132
: -15
Governor no. : 0 420 083 332
Cust. part No. : 0260747702

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

L04

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 89.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
 cm3/1000S. : 7.0
 Rated speed rpm : 300
 Rack travel in mm : 4.40
 Tolerance mm : + 0.20
 Del. quantity
 cm3/1000 strokes : 12.0
 Tolerance
 cm3/1000 strokes : + 2.0
 Check tolerance
 cm3/1000S. : + 4.5
 Spreed
 Tolerance
 cm3/1000 strokes : 2.0
 Check tolerance
 cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.91
 Tolerance mm : + 0.20

Rated speed rpm : 1354
 guide sleeve
 travel mm : 9.00
 Tolerance mm : + 0.15

Rated speed rpm : 1020
 guide sleeve
 travel mm : 5.87
 Tolerance mm : + 0.25

Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450
 Rack travel in mm : 10.00
 Tolerance mm : + 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 700

Del. quantity
 cm3/1000 strokes : 89.0
 Tolerance
 cm3/1000 strokes : + 1.0
 Check tolerance
 cm3/1000S. : + 3.0
 Spreed
 Tolerance
 cm3/1000 strokes : 4.5
 Check tolerance
 cm3/1000S. : 7.0

CONTROL LEVER

control lever
 position degree : 114.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.00
 Rated speed rpm : 1245
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1360
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.40
 Tolerance mm : + 0.10

Rated speed rpm : 200
 CRT mm min. : > 4.80

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 11.00
 Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 11.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 0.90
Tolerance mm : \pm 0.10

Pressure hPa : 150
rack travel mm : 0.30
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 200

Check
speed 1/min : > 80
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 82.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95
Test oil : ISO 4113
Combination No. : 0 403 274 008
Injection pump
Pump designation : PES4MW100/72ORS1525
EP type number : 0 413 204 022
Governor
Governor design. : RSV350...1200MWOA356
: -3
Governor no. : 0 420 085 274
Cust. part No. : 0260748402

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm3/1000S. : 6.0
 Rated speed rpm : 350
 Rack travel in mm : 3.90
 Tolerance mm : + 0.20
 Del. quantity
 cm3/1000 strokes : 12.0
 Tolerance
 cm3/1000 strokes : + 2.0
 Check tolerance
 cm3/1000S. : + 4.5
 Spreed
 Tolerance
 cm3/1000 strokes : 3.5
 Check tolerance
 cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm3/1000 strokes : 126.0
 Tolerance
 cm3/1000 strokes : + 1.0
 Check tolerance
 cm3/1000S. : + 3.0
 Spreed
 Tolerance
 cm3/1000 strokes : 3.5
 Check tolerance
 cm3/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 104.0

tolerance degree : + 4.0

RATED SPEED

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 1450

rack travel mm : 4.00
 Rated speed rpm : 1355

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1240
 rack travel mm : 12.90

Rated speed rpm : 1338
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 1241
 rack travel mm : 12.90

Rated speed rpm : 1339
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 1242
 rack travel mm : 12.90

Rated speed rpm : 1340
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 1243
 rack travel mm : 12.90

Rated speed rpm : 1341
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 1248
 rack travel mm : 12.90

Rated speed rpm : 1346
 Tolerance 1/min : + 4
 rack travel mm : 4.00

Rated speed rpm : 1249
 rack travel mm : 12.90

Rated speed rpm : 1347
 Tolerance 1/min : + 4
 rack travel mm : 4.00

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 3.90

Testing:

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 13.90
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 13.90
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400
rack travel mm : 13.90
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 2.00
Tolerance mm : + 0.10

Pressure hPa : 350
rack travel mm : 0.50
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 127.0
Tolerance
cm3/1000 strokes : + 1.5

Check tolerance
cm3/1000S. : + 4.0
Speed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 67.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 150.0
Tolerance
cm3/1000 strokes : + 5.0
Check tolerance
cm3/1000S. : + 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 3.90
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 12.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000S. : + 4.5
Speed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.10.95
Test oil : ISO 4113

Combination No. : 0 403 276 008

Injection pump
Pump designation : PES6MW100/720RS1517
: -2
EP type number : 0 413 206 019

Governor
Governor design. : RSV350...1200MWOA354
: -1
Governor no. : 0 420 085 243

Cust. part No. : 0250740502

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 133.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 4.0

Speed

Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 4.00
Tolerance mm : \pm 0.20

Del. quantity
cm3/1000 strokes : 12.0

Tolerance
cm3/1000 strokes : \pm 2.0

Check tolerance
cm3/1000S. : \pm 4.5

Spreed
Tolerance
cm3/1000 strokes : 2.0

Check tolerance
cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : \pm 0.35

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200

Del. quantity
cm3/1000 strokes : 133.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spreed
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 1.00
Tolerance mm : \pm 0.70

Rated speed rpm : 1500

rack travel mm : 4.00
Rated speed rpm : 1365

rack travel mm : 13.40
Rated speed rpm : 1245

Tolerance 1/min : \pm 5

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1240
rack travel mm : 13.40

Rated speed rpm : 1344
Tolerance 1/min : \pm 4
rack travel mm : 4.00

Rated speed rpm : 1241
rack travel mm : 13.40

Rated speed rpm : 1345
Tolerance 1/min : \pm 4
rack travel mm : 4.00

Rated speed rpm : 1242
rack travel mm : 13.40

Rated speed rpm : 1346
Tolerance 1/min : \pm 4
rack travel mm : 4.00

Rated speed rpm : 1243
rack travel mm : 13.40

Rated speed rpm : 1347
Tolerance 1/min : \pm 4
rack travel mm : 4.00

Rated speed rpm : 1244
rack travel mm : 13.40

Rated speed rpm : 1348
Tolerance 1/min : \pm 4
rack travel mm : 4.00

Rated speed rpm : 1245
rack travel mm : 13.40

Rated speed rpm : 1349
Tolerance 1/min : \pm 4

rack travel mm : 4.00

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 4.00

Testing:

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 4.30
Tolerance mm : \pm 0.10

Pressure hPa : 450
rack travel mm : 1.90
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 46.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.95
Test oil : ISO 4113
Combination No. : 0 403 276 011
Injection pump
Pump designation : PES6MW100/720RS1526
EP type number : 0 413 206 025
Governor
Governor design. : RSV350...1200MWOA355
: -4
Governor no. : 0 420 085 278
Cust. part No. : 0260748802

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 120.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 20.00
Tolerance mm : + 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 11.80
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 103.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0
Speed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 6.0

Rated speed rpm : 350

Rack travel in mm : 3.10

Tolerance mm : \pm 0.30

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : \pm 2.0

Check tolerance

cm3/1000S. : \pm 4.5

Spread

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : \pm 0.35

governor spring

pre-tension

click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure

hPa : 1000

Del. quantity

cm3/1000 strokes : 103.0

Tolerance

cm3/1000 strokes : \pm 1.0

Check tolerance

cm3/1000S. : \pm 3.0

Spread

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 98.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 1.00

Tolerance mm : \pm 0.70

Rated speed rpm : 1400

rack travel mm : 4.00

Rated speed rpm : 1320

rack travel mm : 10.80

Rated speed rpm : 1245

Tolerance 1/min : \pm 5

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1240

rack travel mm : 10.40

Rated speed rpm : 1310

Tolerance 1/min : \pm 4

rack travel mm : 4.00

Rated speed rpm : 1241

rack travel mm : 10.40

Rated speed rpm : 1311

Tolerance 1/min : \pm 4

rack travel mm : 4.00

Rated speed rpm : 1242

rack travel mm : 10.40

Rated speed rpm : 1312

rack travel mm : 4.00

Rated speed rpm : 1243

rack travel mm : 10.40

Rated speed rpm : 1313

Tolerance 1/min : \pm 4

rack travel mm : 4.00

Rated speed rpm : 1244

rack travel mm : 10.40

Rated speed rpm : 1314

Tolerance 1/min : \pm 4

rack travel mm : 4.00

Rated speed rpm : 1245

rack travel mm : 10.40

Rated speed rpm : 1315

Tolerance 1/min : \pm 4

rack travel mm : 4.00

LOW IDLE

Testing:

Rated speed rpm : 350
rack travel mm : 3.10
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.80
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.80
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.80
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 1.40
Tolerance mm : \pm 0.10

Pressure hPa : 200
rack travel mm : 0.50
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000

Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 97.0

Tolerance
cm³/1000 strokes : \pm 1.5

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance

cm³/1000 strokes : 5.5

Check tolerance
cm³/1000S. : 7.0

Aneroid pressure

hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 62.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 140.0

Tolerance
cm³/1000 strokes : \pm 5.0

Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 3.10

Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spread
Tolerance

cm³/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.95
Test oil : ISO 4113
Combination No. : 0 403 276 012
Injection pump
Pump designation : PES6MW100/720RS1526
EP type number : 0 413 206 025
Governor
Governor design. : RSV350...1200MWOA355
: -5
Governor no. : 0 420 085 279
Cust. part No. : 0260748902

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 20.00
Tolerance mm : + 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 12.50
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 109.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 Rated speed rpm : 350
 Rack travel in mm : 3.10
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 109.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 96.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.50
 Rated speed rpm : 1245
 Tolerance 1/min : + 5
 rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 1400

LOW IDLE

Testing:

Rated speed rpm : 350
 rack travel mm : 3.10
 Tolerance mm : + 0.10
 rack travel mm : 2.00
 Rated speed rpm : 390
 Tolerance 1/min : + 30
 Rated speed rpm : 100
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 12.50
 Tolerance mm : + 0.05
 Rated speed rpm : 750
 rack travel mm : 12.50
 Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1000
 rack travel mm : 12.50
 Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500

Tolerance mm : \pm 0.10
 Rated speed rpm : 500
 Pressure hPa : 600
 rack travel mm : 3.00
 Tolerance mm : \pm 0.10
 Pressure hPa : 300
 rack travel mm : 1.00
 Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 106.0
 Tolerance
 cm³/1000 strokes : \pm 1.5
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 7.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 51.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.50
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 140.0
 Tolerance
 cm³/1000 strokes : \pm 5.0

Check tolerance
 cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 350
 rack travel mm : 3.10
 Tolerance mm : \pm 0.30
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.05.95

Test oil : ISO 4113

Combination No. : 0 401 846 529

Injection pump

Pump designation : PE6P120A320RS3186

EP type number : 0 411 826 756

Governor

Governer design. : RQV250...1025PA921

: -4

Governer no. : 0 421 813 787

Cust. part No. : 422719-P05 V. 06/92

Customer-spec. information

Customer : VOLVO-TRUCK

Motor : TD102F (Q)

Power KW : 220.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde assembly

: 1 688 901 019

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 2.65

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.45

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 198.0

Tolerance

cm³/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : + 4.0

Spread
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 9.0

Del. quantity
cm3/1000 strokes : 19.0

Tolerance
cm3/1000 strokes : + 2.5

Check tolerance
cm3/1000S. : + 5.0

Spread
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1080

Rack travel in mm : 16.50

Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : 1000

Del. quantity
cm3/1000 strokes : 198.0

Tolerance
cm3/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 4.0

Spread
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 62.0

tolerance degree : + 4.0

control lever
position degree : 117.0

tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.40

Rated speed rpm : 1060

Tolerance 1/min : + 5

rack travel mm : 4.00

Rated speed rpm : 1125

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 65.0

tolerance degree : + 4.0

control lever
position degree : 8.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 250

rack travel mm : 4.30

Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 5.70

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700

rack travel mm : 11.45

Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 1000

rack travel mm : 11.45
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.90
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 470
rack travel mm : 2.20
Tolerance mm : \pm 0.20

Pressure hPa : 65
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1060
Tolerance 1/min : \pm 5

LOW IDLE

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.10.95
Test oil : ISO 4113

Combination No. : 0 401 876 747

Injection pump
Pump designation : PE6P110A320RS3162
EP type number : 0 411 816 748

Governor
Governor design. : RSV200...900P1/421
Governor no. : 0 421 833 132

Cust. part No. : 849194 P03 v. 6/95

Customer-spec. information
Customer : VOLVO-PENTA
Motor : TMD 100 C
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration
damper
(RoBo diaphragm) : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.25
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 154.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 154.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 96.0
tolerance degree : ± 4.0

control lever
position degree : 46.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.20
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 985
Tolerance 1/min : ± 15

rack travel mm : 1.00
Tolerance mm : ± 0.70
Rated speed rpm : 1140

LOW IDLE

control lever
position degree : 19.0
tolerance degree : ± 4.0

control lever
position degree : 69.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
rack travel mm : 6.20

Testing:

Rated speed rpm : 250
rack travel mm : 6.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.25
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 945
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.10.95
Test oil : ISO 4113
Combination No. : 0 403 244 049
Injection pump
Pump designation : PES4MW100/320RS1521
EP type number : 0 413 204 020
Governor
Governor design. : RQ400/1200MW149
Governor no. : 0 420 082 075

Cust. part No. : 51.11103-7468

Customer-spec. information
Customer : MAN
Motor : D0824 LFL04
Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 8.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.30
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 135.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 4.0

Speed

Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

Rated speed rpm : 400

Rack travel in mm : 4.80
Tolerance mm : \pm 0.20

Del. quantity
cm3/1000 strokes : 23.0

Tolerance
cm3/1000 strokes : \pm 2.0

Check tolerance
cm3/1000S. : \pm 4.5

Spread
Tolerance
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
guide sleeve
travel mm : 2.75
Tolerance mm : \pm 0.20

Rated speed rpm : 1257
guide sleeve
travel mm : 7.47
Tolerance mm : \pm 0.15

Rated speed rpm : 1200
guide sleeve
travel mm : 7.00
Tolerance mm : \pm 0.10

Rated speed rpm : 492
guide sleeve
travel mm : 4.36
Tolerance mm : \pm 0.10

Rated speed rpm : 650
guide sleeve
travel mm : 7.00
Tolerance mm : \pm 0.10

Rated speed rpm : 1420
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 16.50
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure
hPa : 800

Del. quantity
cm3/1000 strokes : 135.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spread
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 98.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.30
Rated speed rpm : 1253
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1335
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 4.80
Tolerance mm : \pm 0.10

Rated speed rpm : 300
CRT mm min. : $>$ 6.50

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.30
Tolerance mm : \pm 0.05

Rated speed rpm : 1200
rack travel mm : 12.30
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 12.30
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 12.30
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 400
rack travel mm : 1.60
Tolerance mm : \pm 0.10

Pressure hPa : 130
rack travel mm : 0.30
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 1200

Del. quantity
cm³/1000 strokes : 129.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 9.0

Aneroid pressure
hPa : 800
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1253
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000s. : \pm 8.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 4.80
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.95
Test oil : ISO 4113
Combination No. : 0 403 476 140
Injection pump
Pump designation : PES6MW100/720RS1129
: -2
EP type number : 0 413 406 140
Governor
Governor design. : RSV350...1200MWOA363
Governor no. : 0 420 085 246
Cust. part No. : 0260741902

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 A
Power KW : 114.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

M05

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 10.95
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 84.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance cm ³ /1000S.	: 6.0
Rated speed rpm	: 350
Rack travel in mm	: 6.15
Tolerance mm	: + 0.35
Del. quantity cm ³ /1000 strokes	: 11.0
Tolerance cm ³ /1000 strokes	: + 2.0
Check tolerance cm ³ /1000S.	: + 4.5
Spread Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
governor spring pre-tension click setting x	: 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1200
Aneroid pressure hPa	: 750
Del. quantity cm ³ /1000 strokes	: 84.0
Tolerance cm ³ /1000 strokes	: + 1.0
Check tolerance cm ³ /1000S.	: + 3.0
Spread Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0

CONTROL LEVER

control lever position degree	: 104.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 1.00
Tolerance mm	: + 0.70
Rated speed rpm	: 1450
rack travel mm	: 4.00
Rated speed rpm	: 1325
rack travel mm	: 9.90
Rated speed rpm	: 1245
Tolerance 1/min	: + 8

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1240
rack travel mm	: 9.90
Rated speed rpm	: 1289
Tolerance 1/min	: + 4
rack travel mm	: 4.00
Rated speed rpm	: 1241
rack travel mm	: 9.90
Rated speed rpm	: 1290
Tolerance 1/min	: + 4
rack travel mm	: 4.00
Rated speed rpm	: 1242
rack travel mm	: 9.90
Rated speed rpm	: 1291
Tolerance 1/min	: + 4
rack travel mm	: 4.00
Rated speed rpm	: 1243
rack travel mm	: 9.90
Rated speed rpm	: 1292
Tolerance 1/min	: + 4
rack travel mm	: 4.00
Rated speed rpm	: 1244
rack travel mm	: 9.90
Rated speed rpm	: 1293
Tolerance 1/min	: + 4
rack travel mm	: 4.00
Rated speed rpm	: 1245
rack travel mm	: 9.90
Rated speed rpm	: 1294
Tolerance 1/min	: + 4

rack travel mm : 4.00

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.15

Testing:

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 10.95
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 11.75
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
rack travel mm : 11.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 750
rack travel mm : 11.75
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 400
rack travel mm : 1.75
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 1.15
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 750
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 79.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 46.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 6.15
Tolerance mm : \pm 0.35
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm3/1000s. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.95
Test oil : ISO 4113
Combination No. : 0 403 246 048
Injection pump
Pump designation : PES6MW100/720RS1522
EP type number : 0 413 206 023
Governor
Governor design. : RQV300...1300MW148
: -5
Governor no. : 0 420 083 326
Cust. part No. : 0250744902

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

M09

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 20.00
Tolerance mm : + 1.00
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 13.30
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 118.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0
Speed
Tolerance
cm3/1000 strokes : 4.5

Check tolerance
 cm3/1000S. : 7.0
 Rated speed rpm : 300
 Rack travel in mm : 4.20
 Tolerance mm : \pm 0.20
 Del. quantity
 cm3/1000 strokes : 12.0
 Tolerance
 cm3/1000 strokes : \pm 2.0
 Check tolerance
 cm3/1000S. : \pm 4.5
 Spreed
 Tolerance
 cm3/1000 strokes : 2.0
 Check tolerance
 cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.92
 Tolerance mm : \pm 0.25

Rated speed rpm : 1355
 guide sleeve
 travel mm : 9.32
 Tolerance mm : \pm 0.25

Rated speed rpm : 1078
 guide sleeve
 travel mm : 7.06
 Tolerance mm : \pm 0.25

Rated speed rpm : 514
 guide sleeve
 travel mm : 2.14
 Tolerance mm : \pm 0.25

Rated speed rpm : 564
 guide sleeve
 travel mm : 2.60
 Tolerance mm : \pm 0.25

Rated speed rpm : 740
 guide sleeve
 travel mm : 3.93
 Tolerance mm : \pm 0.25

Rated speed rpm : 1720
 guide sleeve
 travel mm : 13.50

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500
 Rack travel in mm : 10.00
 Tolerance mm : \pm 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm3/1000 strokes : 118.0
 Tolerance
 cm3/1000 strokes : \pm 1.0
 Check tolerance
 cm3/1000S. : \pm 3.0
 Spreed
 Tolerance
 cm3/1000 strokes : 4.5
 Check tolerance
 cm3/1000S. : 7.0

CONTROL LEVER

control lever
 position degree : 120.0
 tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.30
 Rated speed rpm : 1345
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1485
 Tolerance 1/min : \pm 15

rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : > 5.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.30
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.30
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.30
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 4.30
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 1.20
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 200

Check
speed 1/min : > 80
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 48.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.95
Test oil : ISO 4113

Combination No. : 0 403 246 051

Injection pump
Pump designation : PES6MW100/720RS1526
EP type number : 0 413 206 025

Governor
Governor design. : RQV300...1200MW132
: -18
Governor no. : 0 420 083 337

Cust. part No. : 0260748602

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 98.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 300

Rack travel in mm : 4.00

Tolerance mm : \pm 0.30

Del. quantity

cm³/1000 strokes : 12.0

Tolerance

cm³/1000 strokes : \pm 2.0

Check tolerance

cm³/1000S. : \pm 4.5

Spreed

Tolerance

cm³/1000 strokes : 2.0

Check tolerance

cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve

travel mm : 1.01

Tolerance mm : \pm 0.20

Rated speed rpm : 1253

guide sleeve

travel mm : 7.33

Tolerance mm : \pm 0.15

Rated speed rpm : 811

guide sleeve

travel mm : 4.16

Tolerance mm : \pm 0.25

Rated speed rpm : 560

guide sleeve

travel mm : 3.08

Tolerance mm : \pm 0.25

Rated speed rpm : 1750

guide sleeve

travel mm : 13.50

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1375

Rack travel in mm : 10.00

Tolerance mm : \pm 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure

hPa : 1000

Del. quantity

cm³/1000 strokes : 98.0

Tolerance

cm³/1000 strokes : \pm 1.0

Check tolerance

cm³/1000S. : \pm 3.0

Spreed

Tolerance

cm³/1000 strokes : 4.5

Check tolerance

cm³/1000S. : 7.0

CONTROL LEVER

control lever

position degree : 120.0

RATED SPEED

rack travel mm : 10.90

Rated speed rpm : 1245

Tolerance 1/min : \pm 5

rack travel mm : 4.00

Rated speed rpm : 1390

Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50

Rated speed rpm : 1500

LOW IDLE

control lever

position degree : 73.0

Testing:

Rated speed rpm : 300

rack travel mm : 4.00

Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.90
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.90
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 1.30
Tolerance mm : \pm 0.10

Pressure hPa : 250
rack travel mm : 0.65
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 96.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 61.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spread
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.95
Test oil : ISO 4113
Combination No. : 0 403 246 055
Injection pump
Pump designation : PES6MW100/720RS1527
EP type number : 0 413 206 026
Governor
Governor design. : RQV300...1300MW155
Governor no. : 0 420 083 340

Cust. part No. : 0250743402

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 130.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 4.0

Speed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5
 Rated speed rpm : 300
 Rack travel in mm : 4.00
 Tolerance mm : ± 0.30
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.91
 Tolerance mm : ± 0.20
 Rated speed rpm : 1355
 guide sleeve
 travel mm : 8.62
 Tolerance mm : ± 0.15
 Rated speed rpm : 1067
 guide sleeve
 travel mm : 6.13
 Tolerance mm : ± 0.25
 Rated speed rpm : 730
 guide sleeve
 travel mm : 3.51
 Tolerance mm : ± 0.25
 Rated speed rpm : 1750
 guide sleeve
 travel mm : 13.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1510
 Rack travel in mm : 10.00
 Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 130.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 110.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.40
 Rated speed rpm : 1345
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 Rated speed rpm : 1490
 Tolerance 1/min : ± 15
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.00
 Tolerance mm : ± 0.10
 Rated speed rpm : 200
 CRT mm min. : > 4.95

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 5.80
Tolerance mm : \pm 0.10

Pressure hPa : 300
rack travel mm : 1.50
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 150
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 120
Check
speed 1/min : $<$ 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 131.0

Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 43.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.05.95
Test oil : ISO 4113
Combination No. : 0 400 195 001
Injection pump
Pump designation : PES5M55C320RS202
EP type number : 0 410 055 971
Governor
Governor design. : RE
Governor no. : 0 420 090 002

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM 605
Power kW : 83.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

M21

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 1.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 17.00
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1000
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 35.5
Tolerance
cm³/1000 strokes : +/- 0.5
Check tolerance
cm³/1000s. : +/- 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000s. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 4.000
Del. quantity
cm³/1000 strokes : 52.0
Check tolerance
cm³/1000s. : +/- 2.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.05.95
Test oil : ISO 4113
Combination No. : 0 400 196 002
Injection pump
Pump designation : PES6M55C320RS204
EP type number : 0 410 056 969
Governor
Governor design. : RE22
Governor no. : 0 420 090 002

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM 606
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 0 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

M23

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Prestroke mm : 1.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 17.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min⁻¹: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1000
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 35.5
Tolerance
cm³/1000 strokes : +/- 0.5
Check tolerance
cm³/1000S. : +/- 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 2500
Uact V : 3.250

Rated speed rpm : 500
Uact V : 3.250

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 4.000
Check tolerance
cm³/1000S. : +/- 2.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.10.95
Test oil : ISO 4113

Combination No. : 0 402 646 639

Injection pump
Pump designation : PE6P130A720RS7140
EP type number : 0 412 636 807

Governor
Governor design. : RQV250...900PA869-1
Governor no. : 0 421 814 075

Cust. part No. : 866372-P04 v. 10/94

Customer-spec. information
Customer : PENTA
Motor : TWD 1630 P

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 175
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 377.0

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.12
Tolerance mm : ± 0.25

Rated speed rpm : 949
guide sleeve
travel mm : 8.05
Tolerance mm : ± 0.25

Rated speed rpm : 315
guide sleeve
travel mm : 1.98
Tolerance mm : ± 0.25

Rated speed rpm : 365
guide sleeve
travel mm : 2.47
Tolerance mm : ± 0.25

Rated speed rpm : 640
guide sleeve
travel mm : 4.31
Tolerance mm : ± 0.25

Rated speed rpm : 1160
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1040

Rack travel in mm : 9.00
Tolerance mm : ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 377.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 5.0
Spread
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 62.0
tolerance degree : ± 4.0

control lever
position degree : 118.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.35
Rated speed rpm : 933
Tolerance 1/min : ± 3

rack travel mm : 4.00
Rated speed rpm : 1005
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

control lever
position degree : 14.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : \pm 0.10

Rated speed rpm : 150

CRT mm min. : > 6.10

Rated speed rpm : 330

BREAKAWAY

Rack travel in mm : 11.35
Rated speed rpm : 933
Tolerance 1/min : \pm 3

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.10.95
Test oil : ISO 4113
Combination No. : 0 403 246 056
Injection pump
Pump designation : PES6MW100/720RS1527
EP type number : 0 413 206 026

Governor
Governor design. : RQV300...1300MW157
Governor no. : 0 420 083 343

Cust. part No. : 0270740502

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 133.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 4.00
Tolerance mm : \pm 0.20

Del. quantity
cm3/1000 strokes : 12.0

Tolerance
cm3/1000 strokes : \pm 2.0

Check tolerance
cm3/1000S. : \pm 4.5

Spread
Tolerance
cm3/1000 strokes : 2.0

Check tolerance
cm3/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.01
Tolerance mm : \pm 0.20

Rated speed rpm : 1354
guide sleeve
travel mm : 6.71
Tolerance mm : \pm 0.15

Rated speed rpm : 1100
guide sleeve
travel mm : 4.76
Tolerance mm : \pm 0.25

Rated speed rpm : 710
guide sleeve
travel mm : 3.03
Tolerance mm : \pm 0.25

Rated speed rpm : 1683
guide sleeve
travel mm : 12.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 9.00
Tolerance mm : \pm 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 1200

Del. quantity
cm3/1000 strokes : 133.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spread
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1485
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 56.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : > 4.33

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.40
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 13.70
Tolerance mm : \pm 0.10

Pressure hPa : 450
rack travel mm : 11.30
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 200

Check
speed 1/min : > 80
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200

NO2

Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 46.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000s. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.11.95
Test oil : ISO 4113

Combination No. : 0 400 196 003

Injection pump
Pump designation : PES6M60C320RS206
EP type number : 0 410 066 001

Governor
Governor design. : RE22
Governor no. : 0 420 090 004

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM 606 D30 LA
Power kW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 0 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

N04

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 1.55

Prestroke mm : 1.55
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10
Check
tolerance mm : ± 0.10

Rack travel in mm : 17.00

Rack travel in mm : 17.00
Tolerance mm : ± 1.00
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR
POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60

N05

Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1000
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : +/- 0.5
Check tolerance
cm³/1000S. : +/- 2.0
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 2200
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 64.0
Check tolerance
cm³/1000S. : +/- 2.0
Speed
Check tolerance
cm³/1000S. : 3.5

Rated speed rpm : 500
Uact V : 3.250
Del. quantity
cm³/1000 strokes : 55.0
Check tolerance
cm³/1000S. : +/- 2.0
Speed
Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 3.250

Del. quantity
cm³/1000 strokes : 54.0
Check tolerance
cm³/1000S. : \pm 2.5
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 8.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.11.95
Test oil : ISO 4113

Combination No. : 0 401 848 828

Injection pump
Pump designation : PE8P120A520/4LS3850
EP type number : 0 411 828 723

Governor
Governor design. : RQ300/900PA1230
Governor no. : 0 421 801 792

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : D2848LE

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 11.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 208.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 7.40
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.44
Tolerance mm : + 0.10

Rated speed rpm : 932
guide sleeve
travel mm : 6.37
Tolerance mm : + 0.10

Rated speed rpm : 880
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 433
guide sleeve
travel mm : 4.94
Tolerance mm : + 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1050

guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 208.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

CONTROL LEVER

control lever
position degree : 32.0
tolerance degree : + 4.0

control lever
position degree : 94.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 925
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 970
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + 4.0

control lever
position degree : 13.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.40
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 9.80

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 11.90
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 11.90
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80

Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 211.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 925
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.40
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.11.95
Test oil : ISO 4113

Combination No. : 0 401 876 331

Injection pump
Pump designation : PE6P110A320RS497
EP type number : 0 411 816 165

Governor
Governor design. : RSV200...1200P1A374
: -15
Governor no. : 0 421 833 468

Cust. part No. : 862472 P04 v. 5/95

Customer-spec. information

Customer : PENTA
Motor : TD71AW
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 200

Rack travel in mm : 5.50
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Spreed

Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 5.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 67.0
tolerance degree : ± 4.0

control lever
position degree : 117.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.75
Rated speed rpm : 1215
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1275
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1420

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

control lever
position degree : 25.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
rack travel mm : 5.00

Testing:

Rated speed rpm : 200
rack travel mm : 5.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 310
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.75
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 220
rack travel mm : 10.10
Tolerance mm : \pm 0.10

Pressure hPa : 770
rack travel mm : 12.30
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 81.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.75
Rated speed rpm : 1215
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50

N12

Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : \pm 15.0

LOW IDLE

Rated speed rpm : 200
rack travel mm : 5.50
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.11.95

Test oil : ISO 4113

Combination No. : 0 401 876 345

Injection pump

Pump designation : PE6P120A32ORS3301

EP type number : 0 411 826 805

Governor

Governer design. : RSV250...1100POA374

: -12

Governer no. : 0 421 833 375

Cust. part No. : 865409 P04 v. 6/95

Customer-spec. information

Customer : PENTA

Motor : TAMD 102 D

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holde assembly

: 1 688 901 019

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.45

Tolerance mm : ± 0.05

Check tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.30

Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 280.0

Tolerance cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : + 2.5

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 280.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 44.0
tolerance degree : + 4.0

control lever
position degree : 94.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.30
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1240

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

control lever
position degree : 19.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
rack travel mm : 5.70

Testing:

Rated speed rpm : 250
rack travel mm : 6.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.30
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 13.30
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.30
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.10
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 1100
rack travel mm : 4.70
Tolerance mm : \pm 0.15

Pressure hPa : 150
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 303.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 148.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.00
Tolerance mm : \pm 0.50

LOW IDLE

Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.95

Test oil : ISO 4113

Combination No. : 0 401 876 346

Injection pump

Pump designation : PE6P110A320RS497

EP type number : 0 411 816 165

Governor

Governer design. : RSV250...1200P1A374

: -14

Governer no. : 0 421 833 464

Cust. part No. : 866537-P03 v. 12/94

Customer-spec. information

Customer : PENTA

Motor : TID 72A

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 120

Tolerance l/h : ± 20.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.05

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.85

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 139.0

Tolerance

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 250

Rack travel in mm : 5.20
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 139.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 68.0
tolerance degree : ± 4.0

control lever
position degree : 118.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.85
Rated speed rpm : 1215
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

control lever
position degree : 27.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
rack travel mm : 4.70

Testing:

Rated speed rpm : 250
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.85
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.40
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 840
rack travel mm : 3.10
Tolerance mm : \pm 0.10

Pressure hPa : 310
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 77.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.85
Rated speed rpm : 1215
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.11.95
Test oil : ISO 4113
Combination No. : 0 401 876 784
Injection pump
Pump designation : PE6P120A32ORS3189
EP type number : 0 411 826 759
Governor
Governor design. : RSV650...750P4A421
: -14
Governor no. : 0 421 833 467
Cust. part No. : 864537 P08 v. 9/95

Customer-spec. information
Customer : PENTA
Motor : TWD 710 G

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1 680 750 067
Outside diameter : 6.0

N19

x inside diameter : 1.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 2.65
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 9.60
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0

Spreed	
Tolerance	
cm3/1000 strokes :	5.0

Check tolerance	
cm3/1000S. :	9.0

Rated speed rpm :	650
-------------------	-----

Rack travel in mm :	3.40
Tolerance mm :	+ 0.20

Del. quantity	
cm3/1000 strokes :	22.0

Tolerance	
cm3/1000 strokes :	+ 2.0

Check tolerance	
cm3/1000S. :	+ 5.0

Spreed	
Tolerance	
cm3/1000 strokes :	5.0

Check tolerance	
cm3/1000S. :	8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
-------------------	-----

Rack travel in mm :	0.50
Tolerance mm :	+ 0.20

governor spring	
pre-tension	
click setting x :	4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	-

Del. quantity	
cm3/1000 strokes :	200.0

Tolerance	
cm3/1000 strokes :	+ 1.0

Check tolerance	
cm3/1000S. :	+ 4.0

Spreed	
Tolerance	
cm3/1000 strokes :	5.0

Check tolerance	
cm3/1000S. :	9.0

CONTROL LEVER

control lever	
position degree :	43.0
tolerance degree :	+ 4.0

control lever	
position degree :	93.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	8.00
Rated speed rpm :	752
Tolerance 1/min :	+ 3

rack travel mm :	4.00
Rated speed rpm :	778
Tolerance 1/min :	+ 7

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

ASSEMBLY GOVERNOR SETTING

Rated speed rpm :	750
rack travel mm :	8.00

Rated speed rpm :	776
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

Rated speed rpm :	751
rack travel mm :	8.00

Rated speed rpm :	777
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

Rated speed rpm :	752
rack travel mm :	8.00

Rated speed rpm :	778
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

Rated speed rpm :	752
rack travel mm :	8.00

Rated speed rpm :	778
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	900

Rated speed rpm : 753
rack travel mm : 8.00

Rated speed rpm : 779
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

Rated speed rpm : 754
rack travel mm : 8.00

Rated speed rpm : 780
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

Rated speed rpm : 755
rack travel mm : 8.00

Rated speed rpm : 781
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

LOW IDLE

control lever
position degree : 87.0
tolerance degree : \pm 4.0

control lever
position degree : 37.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 650
rack travel mm : 3.40
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 660
Tolerance 1/min : \pm 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 9.60
Tolerance mm : \pm 0.05

BREAKAWAY

Rack travel in mm : 8.00
Rated speed rpm : 752
Tolerance 1/min : \pm 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50

LOW IDLE

Rated speed rpm : 650
rack travel mm : 3.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.11.95
Test oil : ISO 4113

Combination No. : 0 401 876 809

Injection pump
Pump designation : PE6P120A320RS3355
EP type number : 0 411 826 814

Governor
Governor design. : RSV325...1200P1A605
Governor no. : 0 421 833 487

Cust. part No. : 3825834 P03 v. 9/95

Customer-spec. information
Customer : PENTA
Motor : TWD731ME
Power KW : 175.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 7.40
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm3/1000 strokes : 7.0

Check tolerance
cm3/1000S. : 11.0

Rated speed rpm : 325

Rack travel in mm : 4.40
Tolerance mm : \pm 0.20

Del. quantity
cm3/1000 strokes : 24.0

Tolerance
cm3/1000 strokes : \pm 2.5

Check tolerance
cm3/1000S. : \pm 5.0

Spread
Tolerance
cm3/1000 strokes : 3.0

Check tolerance
cm3/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.85
Tolerance mm : \pm 0.55

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1500

Del. quantity
cm3/1000 strokes : 126.0

Tolerance
cm3/1000 strokes : \pm 1.0

Check tolerance
cm3/1000S. : \pm 4.0

Spread
Tolerance
cm3/1000 strokes : 7.0

Check tolerance
cm3/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 71.0
tolerance degree : \pm 4.0

control lever
position degree : 121.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 9.60
Rated speed rpm : 1235
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 81.0
tolerance degree : \pm 4.0

control lever
position degree : 31.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 3.90

Testing:

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 10.60
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 10.60

Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.60
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 2.50
Tolerance mm : \pm 0.15

Pressure hPa : 260
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 148.5
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 87.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1235
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.11.95
Test oil : ISO 4113

Combination No. : 0 402 046 870

Injection pump
Pump designation : PES6P120A320RS3303
: -1
EP type number : 0 412 026 782

Governor
Governor design. : RQV275...1050PA1038
: -1K
Governor no. : 0 421 815 478

Cust. part No. : CCEP-5129C 66-195

Customer-spec. information

Customer : RVI
Motor : MIDR 062045 J/3
Power KW : 169.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 115
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

N25

Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.30

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 159.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -5.50
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 27.0

Tolerance
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 5.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.29
Tolerance mm : \pm 0.20

Rated speed rpm : 1143
guide sleeve
travel mm : 9.05
Tolerance mm : \pm 0.15

Rated speed rpm : 742
guide sleeve
travel mm : 6.16
Tolerance mm : \pm 0.25

Rated speed rpm : 337
guide sleeve
travel mm : 2.38
Tolerance mm : \pm 0.25

Rated speed rpm : 387
guide sleeve
travel mm : 3.12
Tolerance mm : \pm 0.25

Rated speed rpm : 440
guide sleeve
travel mm : 3.94
Tolerance mm : \pm 0.25

Rated speed rpm : 1530
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1350

Rack travel in mm : 9.30
Tolerance mm : \pm 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 159.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 59.0
tolerance degree : \pm 4.0

control lever
position degree : 294.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : -1.00
Rated speed rpm : 1110
Tolerance 1/min : \pm 5

rack travel mm : -6.30
Rated speed rpm : 1220
Tolerance 1/min : + 15

rack travel mm : -10.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

control lever
position degree : 19.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -5.50
Tolerance mm : + 0.20

Rated speed rpm : 200

CRT mm max. : < -4.30

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 1050

Rated speed rpm : 700
rack travel mm : -1.05
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : > 165
Rated speed rpm : < 235

Check
speed 1/min : > 145
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700

N27

Del. quantity
cm³/1000 strokes : 151.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1110
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -5.50
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 27.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet